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Virginia's Wildlife and Related Natural Resources
and to the Betterment of
Outdoor Recreation in Virginia*

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COVER: The only squirrel east of Michigan with face stripes, the eastern chipmunk is found throughout the eastern U. S. except in the Deep South. The home range of the chippy on this month's cover is our staff photographer's back yard. Commission photo by Leon G. Kesteloo.

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Industry's Role In Wise Land Use

WE ARE now setting land use patterns with which countless generations will have to live. Are we doing the best job we can? Are we, around our big cities, establishing ample "natural" parks to prevent the development of too solid and unbroken an urban pattern? Will there in the future be ample areas to provide for the recreational needs of an expanded population, a population with more leisure and an increasing desire for healthy outdoor activities? The present increase in juvenile delinquency in the congested areas of New York is giving us a sample of the price we will pay if we fail.

The governmental patterns established by our forefathers have played a large part in making this a wonderful country in which to live. Our democratic institutions are the result of the wisdom of public-spirited men, willing to take courageous action when it is needed. Are we living up to the tradition they established of placing the national welfare above personal concerns?

The United States was a country where for years land was free for the asking. In fact, we still have a lot of land, considering our population. However, our numbers are increasing, our cities are spreading, and land is becoming an increasingly precious commodity. As a city grows, land is needed for many purposes and the competition for a given area often becomes quite intense. In the face of such a situation, how can we keep a reasonable amount of land open?

Many communities are now looking ahead and acquiring the land they will eventually need for such public purposes as schools that should be centrally located. Equally important are the outlying areas that lend themselves in some unique way to recreational use. Sea or lake shore, river banks, remnants of old forest growth, and land of rough, picturesque topography, suggest themselves at once. Such lands have values that man cannot create. In regions where the amount of such lands is limited, they should be purchased at once for parks or for future park needs. The recreational opportunities they can provide for large numbers of people for countless generations ahead gives them a value that should preclude any thought of converting them to other uses.

Industry generally can pay any price necessary to get the land it needs. This ability, however, imposes on it a very real obligation not to despoil areas of high potential for recreation if any alternative exists. Unfortunately, the proximity of an industrial plant depreciates seriously the esthetic value of a recreational area. Ideally, such areas should be reasonably wild, natural and away from the sights and sounds of our modern age.

Actually the problem is not solved by industry's merely abstaining from the competition for these "natural" recreation areas, although it does ease the task of public or private groups that are seeking to convert them to recreational use. Fortunately, in many cases industry is doing far more. In the interest of keeping the community a healthy, pleasant place to live, it is aiding in the effort to acquire such areas for public use. It is to be hoped this will happen with increasing frequency. It is not only in the best American tradition, but it recognizes the truth of the statement "man does not live by bread alone."

—RICHARD H. POUGH

LETTERS

Reactions To "Seiners" Letter

I WANT to commend Mr. Calvin Crance of Lynchburg for his excellent letter in the June issue of *VIRGINIA WILDLIFE*, regarding the seining of minnows in the James River. I heartily agree with him that it is wrong and that the Commission should do something about it, or else legislation should be enacted to prohibit it if the Commission hasn't the authority to do it. I would go a little farther and include the seining of minnows or any fish food from any of the streams in the Commonwealth for commercial purposes. Minnows and helgrammites, both good fish food, are a rarity in any of the streams in this section of the state.

I, too, am a fisherman. I wouldn't object to anyone taking minnows or helgrammites for his own personal fishing use, but I do object to either of them being seined for commercial purposes.

So, Mr. Crance, let's don't let it stop at this. We can do something about it, and I assure you that I am with you in this matter.

U. W. Massie
Roanoke, Virginia

IN ANSWER to Calvin Crance's letter in the June Issue of *VIRGINIA WILDLIFE* magazine, I say seiners are hurting fishing, but 95 percent of the fishermen who use minnows are going to get them some way. I say it is better that they can buy them from some licensed salesman than to have to catch them themselves. If they go out and catch them, where they would buy three to five dozen they will catch probably five to 20 dozen and crowd them into a small minnow pail to die before they get to the fishing grounds.

I suggest that all minnow salesmen's holding ponds should be inspected by local game wardens at least once per month to see that they have no game fish in their ponds.

John L. Reynolds
Danville, Virginia

Collector Seeks Big Game Stamps

AS a collector of state- and county-issued hunting and fishing stamps such as those issued by your state and 15 of its counties, I would appreciate knowing of anyone who is a collector of this material in Virginia. My collection of Virginia state lacks only four stamps for completion, and my Virginia counties are short only some six or eight.

I am glad to buy at top market price anything I can use, or, if exchange is desired, I have plenty of good duplicates. Please accept in advance my sincere thanks for any assistance you can be.

E. L. Vanderford
532 San Miguel Way
Sacramento 19, California

IN renewing my subscription I feel impelled to add a word of sincere appreciation for *VIRGINIA WILDLIFE*. No other publication gives me so much solid enjoyment, and, although I have been a sportsman and conservationist for nearly 40 years, *WILDLIFE* constantly adds to my fuller understanding of the great outdoors and my enjoyment of it.

J. F. Heathershaw
Arlington, Virginia

Public Hunting In America

By C. R. GUTERMUTH, *Vice President*
Wildlife Management Institute
Washington, D. C.

ODDLY, in this land of abundance, we have been showered too abundantly with explanations of why public hunting is doomed, why it is falling into disfavor with landowners, and why it is destined to become a thing of the past. In space-age terminology, the outlook has been negative most of the way. In some sections it is downright funereal.

Why should people be saying that public hunting is doomed when it is among the top outdoor sports? Why are they minimizing the many valid reasons for continuing public hunting as one of the foremost sports? Why do people—especially those capable of influencing public opinion—persistently view the situation from the dark side?

I do not think we are faced with any insurmountable obstacles. There are some trouble spots, but they are few in number and can be solved if sportsmen can be awakened to the fact that public hunting, like many other sports, continually is besieged by changing factors.

People who want to hunt today and want their children to hunt tomorrow must resist being overwhelmed by these difficulties. They must single them out, evaluate their true threat, and move to correct or counteract them wherever necessary. They need to substitute a positive for a negative outlook.

A Look Backward

In order to see into the future with any degree of clarity, it is essential that we know something of the past. Hunting in America has gone through several phases. None can be outlined in sharply etched lines; each has been like a wave sweeping across the nation in response to deep-lying social and economic forces in the American culture. Every one has left a heritage of experience that affects the thinking and behavior of the modern hunter.

The first was the pioneer phase that rolled west of the Appalachians shortly after the American Revolution, reached the Rockies before 1900, and whose backwash still can be seen, just subsiding, in Arctic Alaska and northern Canada. Hunting then was a necessity of life, with the survival of the individual and sometimes of whole settlements depending upon the skill of the hunter. Our heritage from this phase was a concept of hunting rights entirely different from that found in most European countries, where the game belongs to the landowner as fully as do his sheep, cattle, and poultry. In America, the ownership of the game, until reduced to possession by an individual, is vested in the commonwealth. This is an extension of English law, based upon the Magna Carta; but in this country it was solidified against the anvil of the American frontier. The point is basic to any consideration of hunting today, and in the foreseeable future.

A second phase began as soon as the frontier gave way to a rural economy based upon permanent settlements and specialized skills. It was at this point that sport hunting first began to emerge. A man no longer had to hunt for meat, but if he cared to do so, or if he wished to hunt for sport, there

were practically no restrictions. There were almost no game laws, and those that did exist were little enforced, if at all, and there was an abundance of open, undeveloped land to absorb the insignificant hunting pressure. Good hunting could be found on the edge of towns, posted property was almost unheard of, and farmers were tolerant of the few hunters who tramped across their fields each fall.

In many places, this phase lasted for decades. The Anacostia Flats, a 20-minute walk from Capitol Hill, was a favorite shooting ground for Congressmen well past the mid-1800's.

It was during this second phase that the concept of free hunting actually came into being. We talk much of free hunting today, but during the early 1800's it really was free, both of restrictions and of expense, other than basic costs of powder, shot, and horse transportation.

A third phase began soon after the turn of the century, ushered in by the wheezing cough of the Maxwell and the backfiring of the Model T Ford. The automobile age changed everything in America, and the institution of public hunting was not spared.

Before 1900 most people in the middle class had not been able to afford the pleasures of hunting. The work week was six days, from 9 to 12 hours each. Except for rural residents who could steal a day or a few hours from their chores, sport hunting was a luxury enjoyed by the well-to-do, a pastime for youngsters, and sometimes a necessity for the very poor. The great masses of the middle class never had time to enjoy hunting until the machine age liberated them from economic drudgery and gave them, in the mass-produced automobile, a mobility and leisure that their fathers scarcely visualized.

This mechanization upset all of the earlier concepts of public hunting, especially near cities. In earlier times, a farmer glancing out from his milk shed might have seen two or three hunters on his land in the course of a week, and he usually knew who they were. After the development of the automobile, he was confronted with, what seemed to him, an army of strangers, many of whom had little conception of rural courtesy, and some of whom were surly and handled firearms carelessly. The farmer fell back on his age-old rights and posted his property, an act that squeezed the displaced hunters over onto the lands of more tolerant neighbors who already were overburdened with uninvited guests.

Game populations also suffered under the mounting hunting pressures, and it soon became obvious that some form of rationing would be required to spread the supply among the growing number of hunters and to carry a breeding stock through to spring. From this came the closed season, the bag limit, the outlawing of unsportsmanlike hunting practices, and the end of market shooting. All of these reforms had been tried in several states, but they did not receive general acceptance until well into the 20th Century.

Before 1900, most of the states relied upon the local and county police to enforce their game laws. The officers usually were too preoccupied with problems in town to do much

Adapted from an address given at the National Rifle Association 1962 Annual Meeting, Sheraton Park Hotel, Washington, D. C., April 2, 1962.

patrolling in the woods and fields. This finally led to the appointment of special law enforcement staffs under the authority of state game and fish commissioners. Game wardens originally were paid from a share of fines levied against violators, but flagrant abuses under that system soon caused most states to put their officers on a salaried basis. To pay the expense, a direct tax, in the form of the hunting license, was levied against the sportsman.

This was another significant development. It gave the hunter a financial stake in the wildlife resources that was shared by no other segment of the public. If it had been decided that state game commissions should have been financed from general funds, the story of modern wildlife management might have been different.

The federal government entered the picture in 1900 with the passage of the Lacey Act, which, among other things, prohibited the interstate shipment of game taken in violation of state laws. It elevated the Bureau of Biological Survey, the forerunner of the U. S. Fish and Wildlife Service, to an enforcement agency and laid the ground work for the Migratory Bird Treaty of 1916, which firmly established the position and responsibility of the federal government in wildlife affairs.

From pure law enforcement, the various state agencies branched out with more positive programs designed to increase rather than merely save wildlife. This was spurred by sportsmen who had found that protection alone was not enough to assure a daily bag of the kind the hunters of those days were accustomed to.

Inspired by the success of the ring-necked pheasant introduction in Oregon shortly after 1881, some states established game farms to extend the range of the newcomer. Many were successful, and artificial propagation was shifted to native species in an effort to supplement breeding stocks. That trial-and-error process wasted both money and effort. Pen-raised quail were dumped into coverts already filled with quail; elaborate and unsuccessful attempts were made

to raise ruffed grouse; pheasants and chukar partridges were released far and wide, and most of them disappeared almost as soon as they left the delivery crates.

To protect the game still further, "vermin control" programs were promoted, and bounty payments, initiated originally to protect livestock, were made for all conceivable enemies of game birds and mammals. The buck law was initiated as a cure-all in deer management. Winter feeding of wildlife was advocated, and set the table for predators and pestilence.

These simple, direct approaches were accepted avidly by the sportsmen. They were things that the people could do themselves to help increase the game supply. Organizations and individuals threw themselves into the task, raising and releasing game, feeding birds, and shooting hawks and crows. When those methods failed to produce the desired results, the sportsmen often urged their legislatures to reduce their own hunting privileges with closed seasons, reduced bag limits and restrictions of other kinds.

All of the above needs to be known to gauge where we are and where we are going. Actually, this latter phase in the development of American hunting consolidated the moral and financial responsibility of the sportsmen toward the wildlife they hunted. Those of you who did much of your early hunting during that period will remember it with nostalgia. The antagonism of landowners toward hunters that characterized its opening years was alleviated considerably by educational programs sparked by the leading sportsmen's magazines and by national sportsmen's organizations like the old American Game Protective Association and the Izaak Walton League of America. Those private efforts were bolstered by liaison work and active campaigning by the state fish and game departments, and, as soon as the earlier conflicts had been resolved, there was plenty of elbow room for all.

That was a period of liberal open seasons and bag limits, and of self-sacrifice on the part of sportsmen. Every hunter thought that he knew exactly what should be done to increase the supply of game, and there were few wildlife biologists around to disillusion him.

The Advent of Modern Management

What might be called the modern phase of American hunting began about 1933, when Aldo Leopold published his book, *Game Management*, and brought into existence an entirely new approach toward wildlife production. His theory, based on the reproductive characteristics of the wildlife species in relation to the natural environment, upset completely many of the old ideas and practices that had been so popular in the past. It accounted for the failures of many restocking efforts and of artificial feeding. If the environment, or habitat, was not suitable, Leopold said, it was useless to try to introduce birds through stocking. If local covers already were filled to capacity with wild cottontails, it was wasteful to try to increase the population still further by dumping additional half-tame rabbits. The way to increase wild creatures was to expand the habitat, and the natural reproduction of the native populations would occupy it fully.

This theory was accepted by most of the state agencies, and it formed the basis for modern wildlife management. Many sportsmen also accepted the new concept, even though watching pheasants fly from a release box had been a more satisfying experience than planting multiflora hedges and



Commission Photo by Kesteloo

The composite hunter of today represents a cross-section of society. The average hunter is honest, law abiding, concerned over the future of his favorite sport, and willing to make sacrifices to assure its continuation.

waiting for results. In some states, however, the administrators found themselves saddled with firmly established bounty payments, game farms, and buck laws, all legacies from earlier days that they willingly would have discarded in favor of the new and more modern practices.

In 1937, Congress enacted the Pittman-Robertson Federal Aid in Wildlife Restoration Act and, in so doing, provided the most useful tool yet devised for augmenting wildlife. It allocated the 11-percent excise tax on sporting arms and ammunition to the states under a formula based on both the land area and number of hunting licenses sold in each state. With the required 1-to-3 matching funds from state game departments, P-R provided the money to do such remarkable things as accelerate the return of deer hunting in many eastern states, greatly expand the numbers and range of the pronghorn antelope in the West, and make the chukar partridge a relatively common game bird in areas too dry to support native species. It provided public shooting areas and refuges and developed much information on wildlife diseases, food habits, and habitat needs. Without P-R, hunting definitely would be much less rewarding today.

Three years earlier, in 1934, Congress had passed the Migratory Bird Hunting Stamp Act, which provided funds for the establishment of waterfowl refuges directly from the pockets of the wildfowlers. As an outgrowth of the stamp idea, many states began to require special hunting licenses and permits, in addition to their general licenses, usually earmarking the proceeds for projects to assist the species for which the permit was required. Nebraska, for example, requires upland bird hunters to purchase a special stamp, and a number of states have stamps or special big game licenses. Virginia requires a use-stamp of all hunters on the national forests within its borders, the revenue being used for habitat improvement on the federal lands under a cooperative agreement with the U. S. Forest Service.

The Hunter Of 1962

Out of the cumulative experiences of past generations of American sportsmen there has emerged the composite hunter of 1962. He comes from no particular walk of life, since hunting is one of the most cosmopolitan sports. The next hunter you meet in the field may be a bank president or a day laborer, a shop clerk or a corporation executive—it is difficult to distinguish one from the other in field clothes.

The composite hunter has definite prejudices and strong beliefs that come directly from the past. He feels that he has a proprietary interest in the game that he hunts, and a moral responsibility for its perpetuation. Because he buys a hunting license, he considers himself a shareholder in the state game agency and entitled to a voice in its affairs.

To the state game administrators, he sometimes is a problem since he often becomes impatient with modern, scientifically sound wildlife management. Due to the conditioning that he or his father received in the old days, when game management was looked upon as a much simpler problem, he frequently is distrustful of the trained scientist who opposes buck laws, stocking, bounty payments, and the other discredited cure-alls of the past. While he would like to hunt more than he does, he is ultra-conservative toward the liberalization of game laws. If a longer season or a larger bag limit is proposed, he immediately fears that it will "exterminate the game." Yet he is equally critical of the authorities when they must curtail hunting privileges in the face of real necessity.

He is suspicious of non-hunting nature groups, although in the off-season he may enjoy wildlife photography or nature study himself. As long as he pays the required license fees and keeps within the legal restrictions, he considers both free hunting and the right to bear arms to be his birthright as an American citizen.

Do not misinterpret this analysis. The composite hunter of today is not the killer that some writers picture; he represents a cross-section of society. As an average citizen he has some of the good features and the bad of the typical American. The average hunter is honest, law abiding, and concerned over the future of his favorite sport, and, whenever he can be shown a clear need, he is willing to make sacrifices to assure its continuation.

A Look Into The Crystal Ball

Now, then, with all this background, what is in store for the rocket-age hunter? We know that he is moving very swiftly into a future that he must share with 200 million other Americans whose food, commerce, and residential requirements must be met. The question that we must ask ourselves, in all seriousness, is whether there will be room for hunting in the America of Tomorrow.

I, for one, am not as pessimistic about the future as some others who have explored this subject in recent years. People have been predicting the imminent end of sport hunting for the last half-century. Still, in many respects, hunting is better today than ever before. The dark spot in the picture is in waterfowl hunting since it depends upon a specialized type of habitat which is under heavy attack from economic and other forces, including the weather; but deer and elk hunting, and many types of upland game shooting, are much better in some places than they have been for years.

The major problem of the future will be space in which to hunt, not a shortage of game. Commercial shooting preserves and private and leased hunting areas will assure many of the people of places to hunt for a long time to come. Public shooting grounds will take care of loads of others. Shooting preserves are going to play an even more important role in the future scheme of things, not only in providing their patrons with places to shoot, but in absorbing hunting pressure that otherwise would be forced upon open lands, especially around metropolitan centers.

There are many reasons to believe that there always will be lots of places to shoot a gun at something other than clay pigeons and paper targets. Basic laws already on the federal statute books provide machinery for coping with some future wildlife problems. The Duck Stamp Act probably has saved several species of waterfowl during the present crisis by providing funds for essential refuges. A 1961 act authorized an advance of \$105 million from the U.S. Treasury to buy wetlands for waterfowl. The staggering accomplishments under the previously mentioned Pittman-Robertson Federal Aid Act have been responsible for doubling the range and numbers of several species of wildlife that might otherwise have become museum pieces.

Secondly, there have been a number of federal directives and proposals in recent months that, if translated into action, will open much now-closed acreage to public hunting and assure the preservation of wildlife and recreational lands. Some of the recommendations of the Outdoor Recrea-

(Please turn to page 20)

Fitting Out Your Outboard For Fun And Safety

(Part II)

Text and Photos by JIM RUTHERFOORD
Radford, Virginia

MANY boat owners, particularly those who own summer cottages on their boating lake, may deride the extensiveness of the equipment we carry aboard our "waterborne station wagon." After all, to such boaters as these, boating is a pastime of short duration: a fishing jaunt up a nearby cove, a short session of water skiing or a boat ride for weekend guests.

On the other hand, the fellow who keeps his boat at a public marina or dock or the trailer boatman who spends much of his recreational time in his boat will find good use for every item we mention here.

Our own 17-footer stays in the water from April through November, except for trailer jaunts to some other lake. It is kept equipped and ready to go on any type of outing that may suit our fancy.

Aboard at all times are: minimal cooking gear, a couple of fishing rods and a well-stocked tackle box, a small, portable ice chest, skis and lines, a homemade sun-and-rain shelter, two blankets, extra towels and a supply of non-deteriorating foods and beverages.

Before you wind up your deal with the marine dealer, be sure to include an extra propeller complete with prop nut and washer, if required. You may wish to specify that this spare be of a different pitch from your regular wheel. If you are interested in speed, you should have one speed propeller for use when running with light loads for maximum speed.

The second prop can be of somewhat lower pitch for normal use. We have found the most satisfactory arrangement is to have a propeller pitched for average load and use installed on the motor for normal use. Our spare propeller is of considerably less pitch to give good performance when operating under conditions of heavy load or when pulling several skiers, which we do only occasionally. The subject of propeller pitch, diameter and number of blades would be an article in itself. Let your dealer advise you, or get one of the free brochures from a manufacturer, such as the Michigan Wheel Company, Grand Rapids, Michigan. This will give you a working knowledge of the subject. In any case, carry a spare. You never know when a log, a small piece of drift or an old beer can will foul and bend your propeller, leaving you stranded miles from your home dock. We know one fellow who badly damaged his propeller five times during the first three months of Claytor Lake's boating season last year. Each time he had to paddle or be towed in, and his boat laid up while the prop was being repaired. Now he carries a spare. Remember: there is little economy in buying an aluminum or white metal prop. Few of them can be straightened when bent and they usually break when a blow is incurred. Bronze wheels cost considerably more, but they can be straightened or rebuilt many times. Also, most bronze props can be changed somewhat in pitch to allow "tailoring" the wheel exactly to your boat.

A good boathook is a necessity rather than a luxury. We "did without" for years but, after buying one, we don't know how we ever did get along without it. The floating, aluminum hooks with tips protected with soft plastic or rubber are excellent for the small boat. A six- or six-and-a-half-foot length will be fine. Such hooks are easily stowed and are very light in weight. Thus, they are easily handled by ladies and children who may be members of your "crew."

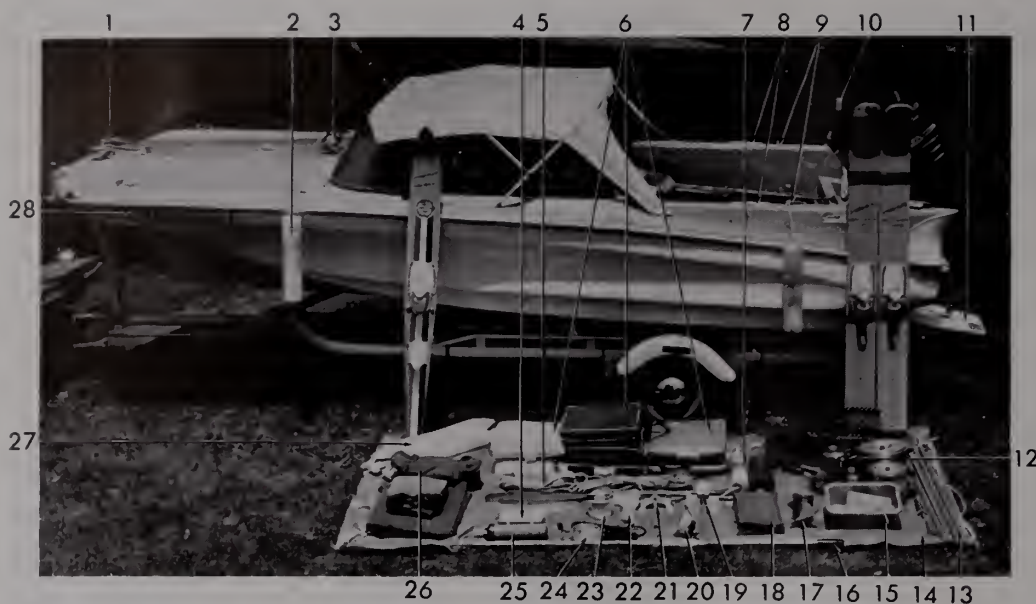
Fenders, sometimes called "bumpers," are an absolute must, if you think anything of your boat. They will protect your rig while you are refueling alongside a pier where boat traffic can severely damage the craft in a moment. It is unforgivable boating etiquette to come alongside another craft unless your fenders are outboard. We prefer the floating, air-filled plastic or the less expensive, but less durable, Styrofoam fenders. These are light in weight, require no drying before stowing, and may be used as buoys and, in an emergency, for personnel flotation. Fenders come in various sizes. Our preference is for the 18- by 4-inch and 16- by 3-inch sizes.

We have never seen a small boat factory-equipped with enough fender cleats or hooks and, unless there are fastening devices in the proper places, fenders are rendered absolutely useless. Check your own boat and add fender hooks as you deem necessary to protect your boat. A new, patented-type fender fastening is now on the market. This consists of a flush-mounted socket which receives a nylon pin. Extra pins may be purchased so that several fenders of various sizes may be fitted with the pins and "plugged in" as needed for protection. We consider these excellent accessories as they have no sharp points to gouge clothing or skin and do not protrude above the surface on which they are mounted. Thus, the sockets may be safely installed exactly where needed for maximum protection.

Most outboard boats come equipped with one or more removable transom drain plugs. These are calculated to drain



Yellow smoke flare brings help in a hurry in case of emergency such as damaged propeller or engine failure. Bright red flares serve the purpose at night. Neither should be used unless an emergency exists.



Author's boat on trailer with movable gear displayed: 1. combination bow light; 2. fender secured to cleat as in mooring; 3. electric horns; 4. first aid kit (waterproof); 5. ski lines; 6. CG-approved flotation cushions; 7. spare fenders; 8. step plates; 9. flush fender plates; 10. combination stern light/anchor light raises to clear top and motor; 11. ride stabilizers; 12. cookout kit; 13. collapsible poles and aluminum stakes for erecting sun/rain shade 14, useful when resting ashore; 15. plastic dishpan-bailer contains spare propeller; 17. tool kit, boat cleaning equipment; 16. boat hook; 18. rain gear; 19 and 21. anchors; 20. hand-held searchlight; 22. 5/16" service anchor line (100 feet nylon); 23. 100 feet nylon storm anchor rope; 24. extension trouble light; 25. US-CG-approved fire extinguisher; 26. towels, blankets stowed in rubber-lined bag; 27. foam ski belts; 28. numbers of proper size, contrast and spacing.

the boat when it is removed from the water, as on a trailer. They may also be removed, by an assistant or crew member, when the boat is under way, to remove excess water. Unfortunately, we have seen several good boats founder when launched from a trailer with the drain plug left out or when the boat was drained underway and the plug not reinserted before stopping. There are several automatic-closing and full automatic plugs now available which will prevent such ill-fated and inconvenient accidents. One such is a simple, flapper-valve-and-strainer arrangement which allows excess water to drain from the craft at any time it is underway or when it is out of the water with the bow tilted up. The flapper check prevents any inflow of sea or lake water.

Some sort of bailing device is highly recommended. The most efficient device we have found is one of the poly-plastic pans, sold in five-and-ten, grocery, and hardware stores as dishpans. With one of these pans you can dip water much faster than it can be pumped, and your bailing capacity is limited only by the number of pans and crew members you have aboard. "Mopping up" operations can be carried out with the aid of one or more large plastic sponges. Again the pan comes in handy for accepting the contents of the sponge.

Anyone who plays around water and boats is bound to suffer the small cuts and bruises and other minor mishaps associated with any active sport. Be sure you have a well-stocked, first-aid kit or, preferably, a medicine chest aboard. A waterproof, rustproof, first-aid kit, especially designed for the boatman, is now available at many marine dealers and drug stores. This contains bandages, antiseptic, sunstroke tablets, seasick remedy, ammonia inhalants (for fainting), scissors and tweezers. It also contains a patented mouth-to-mouth resuscitation tube for use in this relatively new method of reviving drowning victims. Included is a neat bracket for mounting the kit or a bulkhead of your boat. Of course, you may assemble your own emergency kit from items purchased from your druggist and augmented with such personal items as may be recommended by your physician. For instance boaters who engage in boat-camping or picnicking ashore are advised to include a snake-bite kit.

You should also include a "first-aid kit" for your boat and motor as well. A basic tool kit which contains a propeller nut wrench, screw drivers, pliers, adjustable wrench

and spark plug gapping gauge is essential to getting home under your own boat's power. In this kit can be stowed: spare spark plugs, ignition points, prop nuts and washers, fuses for lighting circuits and spare lamps, together with a small roll of electrician's tape and a tube of caulking compound. A few extra nuts and screws for the replacement of loose hardware and fittings may also be useful.

Another very handy item to have aboard, if you boat at night, is an ordinary extension cord light, or trouble light, such as those used around mechanical shops. This is the kind with a protective wire cage over the lamp and with about 25 feet of cord. Use a six-volt or 12-volt lamp to match your power supply. Ours has a 12-volt, 50-watt lamp. The "plug-in" end is fitted with a home-made adapter to allow plugging into the cigarette-lighter socket on the dash. This has proved most useful both as a trouble light when making nighttime repairs and as a floodlight for impromptu evening picnics afloat or ashore. Do not use this continuously, however. You may find your boat's battery dead when you are ready to leave. For planned picnics and cookouts in the evening, we add a propone or gasoline lantern for use ashore.

As a dedicated boating family, we have no use for a dirty boat. Algae on the bottom reduces speed and increases fuel consumption. We have found that a 14-day accumulation of fresh-water algae will reduce our top speed by as much as eight miles an hour. So, the bottom is cleaned about every 10 days during the summer. This is a simple job with a stiff brush or fine, steel-wool pads, and the boat needn't be taken from the water. We simply "get out and get under," as in the days of the Tin Lizzie. We can reach nearly all of the boat bottom by lying alongside and reaching under. A short "ducking" allows the one or two hard-to-reach places to be cleaned. Total time: 30 minutes.

Cleanup time provides personal pride and pleasure for the entire crew—mother, dad and the ambulatory youngsters. For this is the time when we also wash and wax the decks and the hull above water line. A good detergent or a special boat cleaner cuts most dirt and grime off the sides and deck. Mild scouring powder is used on stubborn spots on the fiber-glass hull. Acetone is excellent for cleaning the the rubber or plastic rub-rail. A cloth lightly moistened with the solution is all that is needed. Almost any good auto-

mobile body wax is suitable for a fibre-glass boat, and the waxing need be done only three or four times during the summer. Use special, plastic, windshield cleaners and soft cloths on your boat's windshield, however, to prevent scratching the soft plastic. These are available from your dealer or at your local airport, where they are used on the windshields of light planes.

Cleanup time is also the time to rearrange gear that has been used and improperly, or hurriedly, stowed. Take everything out of the boat, give the inside a good flushing with water and detergent, and dry out with your sponges. Then stow everything in "shipshape and Boston fashion." You'll be proud of your rig, and you will have had an hour or two of unexpected boating pleasure. It's a lot easier than washing your car and a great deal more fun.

And speaking of stowing, or putting away all the gear you carry aboard, that is where those plastic dishpan "bailers" come in. They are the finest containers yet for holding cleaning materials, spare prop, anchors and lines, extra towels and clothes, wet swim suits, and just about anything else you may carry aboard, including the string of bluegills



What fish in side streams lack in size they make up in quantity and quality.

Fish The Side Streams!

By H. LEA LAWRENCE
Johnson City, Tennessee

I KNOW a sparkling little stream, chuck full of scrappy, creel size rainbow trout, where I can fish all day and never encounter another fisherman.

What's more, it is so infrequently visited that there isn't even a hint of a trail along its banks. I have fished it for



Commission Photo by Harrison

Plastic foam safety belts for water skiers are not approved lifesaving devices but may be used when there is an observer in tow boat.

you caught at lunchtime while the kids were napping on on shore on those blankets you carry.

Also, we find a good many war surplus bags and containers handy for carrying many types of boating gear. Blankets and spare towels are packed in one such rubber-lined container called a "cargo bag" that sells for 74 cents. Another one holds cooking pots and pans. A surplus, zipper-closed tool kit is just right for the boatman's tool kit. And an airplane "tech manual" container, made of plastic impregnated clothboard, makes a fine map and data case. It is surprising how much a little imagination can do if you think about boats whenever you are in any sort of store. For some time now we have had our main first-aid kit and medical remedies stowed in a plastic cake box picked up at the five-and-ten. It's waterproof, break resistant, and it floats.

Lastly, but by no means finally, be sure you have a couple of distress flares on board. Even on a small lake they may, someday, come in handy. Red-flame flares, such as are used by trucks and automobiles on our highways, are acceptable, although there are special marine types. Orange smoke flares are also good to have for daytime use.

If you think this seems like a lot of equipment to have aboard, remember, this is what we carry on a well-found, 17-foot runabout, or utility. And it is all stowed neatly and out of the way, with plenty of room for six passengers and their personal gear.

(Next month, conclusion)



U.S. Forest Service Photo

Fishing on side streams can sometimes be improved by the installation of deflectors and low dams such as this one on North Creek in the Jefferson National Forest.

three years without ever seeing a single person, and chances are in three more years I can probably say the same thing.

Private preserve? Wilderness water? Hardly. The stream of which I speak is less than a half-hour's drive from my home in a city of 35,000 people. Furthermore, I can drive to within ten feet of the stream's edge. No long hike is involved.

How is it that I can do this and remain totally free from the competition I run into on practically every other

stretch of water in this same region? And why hasn't increasing fishing pressure come to bear on this water, too?

The reason is simple. This stream, like thousands of others like it all over the country, is one of the forgotten side streams that are too small or too insignificant in appearance for fishermen to investigate. Away from the alluring "big water," these little bonus spots often go for years without having a lure break their surface. Yet they are often amazingly productive, and offer, in addition, the sort of solitude fishermen are hard-pressed to find nowadays. Not to be forgotten is the fact that these streams are not stocked, therefore have less pressure on them.

I fish these side streams a lot. I like the privacy and I enjoy being able to fish water as slowly as I please. On the more popular streams I find I have to either be hopping rapidly to keep from being run over by fishermen trying to overtake me, or fishing along in the wake of several fishermen already ahead of me. Usually it's both.

It's different on the small streams. If I should decide to rest a pool for awhile after missing a fish I can do so without worrying about someone splashing through it in minutes. I could even take a nap and know it would be undisturbed. The whole approach is relaxing. One doesn't even have to hurry to reach this kind of fishing water; you can drive leisurely and forget about the usual rat race.

True, there's a scarcity of trophy fish in the small waters, but what the fish lack in size they often make up in quantity and quality. The trout stream I mentioned, for instance, contains only stream-reared fish, since it isn't stocked. Those native fish are dynamite!

I've been talking about a trout stream, but there are side streams of all sorts. One of my favorite places is just off a main highway, and it is literally swarming with smallmouth bass. An afternoon on this stream with a fly rod or light spinning outfit can provide the kind of action bass fishermen dream about!

While living in the midwest a few years ago, I found an overlooked stream that held some bragging-size muskies; one other I located had the biggest bluegill I have ever seen;

still another was a real hot-spot for largemouth bass. And all of them were just a few miles from a heavily-populated metropolitan area. It's paradoxical—but profitable to remember—that some of the best of the small waters may be found right at your doorstep.

In searching out these spots you can't rely on stumbling upon them accidentally. This may happen occasionally, but there's an even better and more thorough way to find them.

Get hold of a good topographical map of your region and begin a study of the streams you find on it. Chances are that you'll discover at least a dozen you knew nothing about, perhaps even more. List these places and start checking into them, either by asking questions of people you might know who live nearby them, or by making trips to look them over personally. The latter way is best since the sources of information you seek out may know nothing about the fishing in the stream of which you inquire. I once took a beautiful limit of bass from a stream that a native of the region told me was fishless. He wasn't lying; he just didn't know there were fish in it.

I like to map out such spots in a manner that gives me a chance to try two or three during a day's time. With luck you might find one out of three that is worthwhile fishing. If you should happen to strike it rich on the first one you visit, the others can be saved for a later trip.

Naturally, not catching fish in a stream isn't absolute proof that there aren't fish in it. You can, and do, hit even the best places at times when nothing can coax a strike. So it's wise to give a prospective spot more than one try before you cross it off your list. This, plus careful observation, will pay off in the long run. Often you can learn as much about a stream by scouting it as you can by actually fishing it.

Finding a small-scale fishing bonanza is one thing; keeping it a secret is another. A nice string of fish attracts attention, and you can be certain you'll be asked where they came from. Friends can be even more persistent, and they're the hardest people to hold back information on. The most sensible plan—though it's tough on one's pride—is to keep quiet about your catches from places you don't want known. This may sound over-cautious, but consider it this way: Small streams can't take a lot of pressure, and you can ruin your own sport by leading people to your find. Despite all the talk about women being loose with secrets, fishermen can do a pretty good job of moving confidential information around. And when your "private" fishing spot is at stake, the results can be disastrous!

Of course, several of my fishing companions share my out-of-the-way fishing holes with me. They like this kind of fishing, too, but they like it well enough that they're not going to ruin their own sport by talking. So it's safe in their hands.

There's one other advantage to these side streams I haven't mentioned that is important. Since they are small, and since the water temperature in them is usually lower than that in larger waters, fishing is ordinarily productive in them at times when it is dead elsewhere. Most of the streams I fish, in fact, are good right on through the summer. This gives me more incentive to fish them.

You can have bonus fishing, too, in these side streams, if you'll only take the trouble to locate them. And considering the enjoyment you can gain, it isn't really much trouble at all!



"I like privacy and I enjoy being able to fish water as slowly as I please."

Quail Raised By Bantam Hen

By MALCOLM A. BOOKER
*State Game Warden
Buckingham County, Virginia*

Commission Photos by Kesteloo

EVERY year during hay cutting season thousands of quail eggs are destroyed by the mower!

One Buckingham farmer last year claimed that he cut over 12 quail nests. This—you know—causes the quail to abandon the nests and eggs.

So far as I know, no effort had ever been made to salvage these eggs until last year when a Buckingham



Warden Booker
and Mr. Rainey
with the bantam
hen and one of
"her" quail
chicks.

county man, Ralph Rainey, former outdoor editor of the *Charlotte (N.C.) Observer*, started a project of his own as a hobby.

When a local farmer brought Rainey 12 quail eggs, he borrowed a setting bantam hen and hatched them. While the hen was setting, Rainey made a cage out of an old broiler coop, which he covered with ¼-inch rat wire, and partitioned off about a quarter of it for a hiding box. He put two foot legs on it so the quail would be raised on wire. The hiding box in the end of the coop had a door in it large enough for the hen and poults to run in when they are frightened.

After the first clutch had begun to grow, other farmers heard about the project and different ones started to bring Rainey more eggs. He had to then borrow more bantam hens and enlarge his project. When this was written Rainey had released two clutches and a hen was sitting on 40 eggs.

These young quail took to the wild after a few weeks when they could fly about 50 yards at a time.

A funny thing—the cats and the dogs of Rainey's regarded the small quail as domesticated and paid no attention to them running around the yard.



The local children are getting a lot of fun out of watching the quail chicks grow.

The quail soon left the hen after she tried to make them roost in a tall apple tree.

When Rainey set these hens he took a close woven bushel basket and put about three inches of damp sawdust in the bottom mixed with rotenone dust to keep lice and mice away from the nest, and covered the sawdust with about one inch of hen nest grass.

These baby quail were easy to feed. They ate small scratch feed just like baby chicks.

Another farmer cut over a nest on his farm and he put the eggs in his incubator and hatched them. He then gave them to Rainey to raise with his, but these met with disaster because the incubator hatched quail would not stay with the hen.

All the local children are getting a lot of fun out of this hobby of Rainey's by visiting him and asking all kinds of questions about wildlife.

Ralph Rainey has made a lifetime study of the quail, so if he has salvaged only a couple of dozen quail with his hobby, he has done a little good.

As a game warden, I don't have much faith in hen-raised quail, but this project is very interesting as it has caused a lot of thinking throughout the county on the loss of quail nests during hay season.

Loss of quail eggs through mowing is bad, but not as bad as you may think. Bobwhite in captivity lay about as many eggs as a leghorn hen. At the Fisher State Farm in Pennsylvania, one quail laid an egg on 186 consecutive days to set a world record.

According to a survey, quail are almost as prolific in the wild as they are in captivity. They will lay as many as three clutches of eggs a season.

A survey showed that a quail will lay an early clutch of 25 to 30 eggs. If anything happens to the eggs or young she will nest again and lay from 15 to 20 eggs. If disaster strikes again, she will even lay the third clutch of 12 to 15 eggs.

This third clutch hatches late and this is where you get your "squealers" that you see in early hunting season.

If the first or second clutch hatches and raises, the mother quail rarely lays and sets again.

Family Fun With A Gun

Text and Photos by JOE BROOKS
Richmond, Virginia

WHEN your boy says "Dad, I want to shoot," it's time to take him to the practice field and teach him the basic rules of the game. From the start, every movement should be made with safety in mind.

Bill Rothert of Richmond is shown here teaching his son Johnny the basics of shooting. The younger boy, Allen, not yet of an age to shoot, is allowed to participate and, at the same time, learn safety rules which will help him when his turn comes.

In picture #1, Bill cradles the gun in a safety position as he shows the boys how to place the clay pigeon target



The instruction session begins: picture #1 above, #2 below.

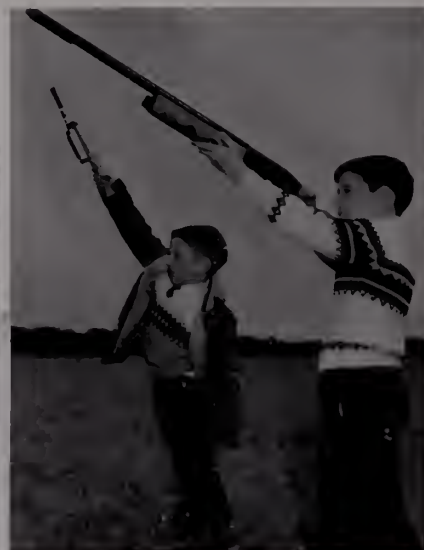


Johnny takes over: picture #3 left, #4 right.

in the hand trap used for throwing. Johnny is allowed a few practice throws. Then when he has mastered the throw, he puts one out for his father to shoot (picture #2).

After a few more practice throws, Johnny graduates to the gun. In picture #3, cradling the gun as he has seen his father do, he picks out his shell, loads it, and comes to shooting position. As his father throws the target, in #4, Johnny cracks down on it. Notice the shell ejecting in #5, at right.

So he won't feel left out of the family fun, Allen learns to throw the "birds" (picture #6). And in picture #7, he's one of the party, putting them up there nicely for his brother.



Picture #5, left. Allen throws the "birds": picture #6, center; #7, right.

VIRGINIA WILDLIFE

CONSERVATIONGRAM

Commission Activities and Late Wildlife News . . . At A Glance

FISH FOR FUN INTEREST GROWS. A substantial increase in the number of fishermen and a phenomenal increase in the catch indicates that this year's fish-for-fun angling season on the Rapidan river got off to a good start. Opening day anglers reported a catch of 3.7 trout per trip on the fish-for-fun stretch while opening day put-and-take anglers racked up only 1.5 trout per trip on Garth Run in Madison county and 1.2 trout per trip on Moorman's River in Albemarle County. The total fish-for-fun catch was 756 trout during the month of April, nearly twice as many as were reported last year. The majority of the fishermen were from the Arlington-Alexandria-Fairfax area. Only a little over 10 per cent of the fishing trips were made by residents of Madison and adjoining counties. Creel records from last year showed that fishing success on the catch-and-release area reached its peak in July and August when put-and-take streams were pretty well "fished out." Fishing success into September and October equalled or exceeded opening day catches. An additional 300 "braggin' size" trout averaging 15 inches in length were stocked this spring as an added incentive to would be fish-for-fun addicts.

HATCHERY FISHING PAYS OFF. Anglers who have been fishing at the Virginia Game Commission's Front Royal Hatchery have been hitting pay dirt. During the month of May, fishermen caught nearly 100 pounds of fish per acre on the eight small hatchery ponds opened to public angling on an experimental basis. For each acre of water the ponds, which range in size from three-fourths to one acre, supported 131 fishing trips totalling 359 hours and yielded 415 fish. The rate of catch was slightly over one fish per hour of angling which compares favorably with success at less heavily fished waters. The 100 pounds of fish removed from each acre of water were composed of 94 pounds of bluegill and six pounds of bass.

Heavy fertilization was responsible for the phenomenal production, according to fishery technicians. The ponds were not restocked and the fish were not artificially fed. The main purpose of the three year experiment, now in its second season, is to evaluate the effect of a 14 inch size limit on bass which is enforced on four of the ponds.

BOAT REGISTRATION FEES CHANGE. Boat registration fees as prescribed by the 1960 boating act were modified slightly beginning June 29, 1962, as a result of revisions made by the 1962 Virginia General Assembly. New registrations and transfers of ownership will be three dollars through June 30, 1963. The new scale prorates the registration fee so that it will be five dollars in the first year of the triennium, four dollars in the second and three dollars in the third. The 1962-63 fiscal year is the third year of the current triennium. All registrations will expire June 30, 1963, at the beginning of the next triennium. The fee for a transfer of ownership and registration will now be the same as for a new registration instead of the former transfer fee of one dollar.

All boats propelled by motors of ten horsepower or more must be registered and numbered. Boat numbers must be spelled out in block letters at least three inches high on the forward half of the boat in a position where they may be easily read.

All motorboats must carry the safety equipment designated for boats of their class. Even rowboats operated at night must display proper lights to avoid collision. A complete summary of numbering and safety equipment requirements is contained in the Virginia Motorboat Owners Guide, available free from license agents, sporting goods and marine dealers, or from the Virginia Game Commission, P. O. Box 1642, Richmond 13, Virginia.

Report On the 15th Annual Wildlife Essay Contest

FOR 15 years the Virginia Division of the Izaak Walton League and the Virginia Commission of Game and Inland Fisheries have co-sponsored an annual wildlife essay contest. Endorsed by the Virginia Resource-Use Education Council and the Resource-Use Education Committee of the Virginia Academy of Science, the contest is open to all school pupils from the 5th grade through the 12th. The State Board of Education actively cooperates in this conservation project and includes it each year on its list of recommended contests.

The purpose of this annual contest is to broaden the student's understanding of the value of our wildlife as a great outdoor heritage and what it means to our economic, physical and spiritual life.

Letters announcing the contest and official registration forms are sent by the Commission with cooperation from the State Board of Education to all Virginia public school principals. Game wardens and Waltonians visit schools in their area distributing additional materials, giving talks and showing films pertinent to the subject. Schools wishing to participate in the contest submit an official entry card. The schools desiring to participate are then mailed packets of information and educational materials that have been assembled by the Commission staff. Each year thousands of pieces of literature are sent to the schools to aid as reference material. Many conservation reference corners have been started in the schools as a result of this contest.

The subject of the 1961-62 contest was "Why Legal Hunting and Fishing Are Good Conservation Practices." The object behind the sponsors' choosing this subject was an attempt to impress upon our young generation the fact that fish and game are renewable resources which can be harvested much like a farm crop. The essays received indicated that the eyes of many young folk were opened for the first time to the fact that hunting and fishing are not necessarily detrimental to wildlife but, when carried out within the prescribed limits set by the Commission and Legislature, can actually be a real benefit to game populations in certain instances.

This year approximately 9,500 essays representing 454 schools entered the contest as compared to 224 schools last year. In other words, over twice as many schools entered this year than in the past. Last year four schools had 100 percent student participation. This 15th year, 10 schools reached the 100 percent mark. Over 40 schools had better than 90 percent participation. Thus far, \$20,400 in school prizes has been offered by the sponsoring agencies—the League and the Commission. The 1962 contest prizes totaled \$2,900, which was divided among 233 boys and girls and the 10 schools having complete participation. Over 45 percent of the schools submitting essays had cash prize winners.

The Fifteenth Annual Wildlife Essay Contest came to a close May 28 when the \$700 scholarship winner, the eight \$50 grand prize winners, and the 10 representatives of the 100 percent participating schools were guests of the sponsoring organizations at Richmond. Following greetings by the Commission's Executive Director, C. F. Phelps, and a tour of the Game Commission offices, the winners were taken to the State Capitol building for a tour.

Presentation exercises were held in the Senate Chamber with the president of the Virginia Division, Izaak Walton League, Mr. David D. Martin of Gretna, presiding. Dr. Woodrow W. Wilkerson, Superintendent of Public Instruction, was the keynote speaker. He stressed the importance of conservation of our natural resources in this age of "population explosion." The Honorable Albertis S. Harrison, Jr., Governor of Virginia, presented the awards to the winners.

After a picture-taking session the guests were given a two-hour bus tour throughout the historic Capitol city. A special luncheon was held at the John Marshall Hotel for the winners, their parents, guests, and members of the sponsoring organizations. Mr. Henry W. Peters, I. W. L. A. representative, presided over the luncheon and program. Dr. Franklin D. Kizer, State Department of Education Supervisor of Science, and Mr. E. W. Mundie, director of the summer conservation short course for teachers, were the principal speakers.

To date, some 130,000 boys and girls have participated in this contest. Its influence is wide and far-reaching, and it is considered a model conservation education project in the United States.

Dorothy E. Allen

Coordinator, 15th Annual Wildlife Essay Contest



Game Commission Executive Director Chester Phelps welcomes the winners and their families to Richmond and to the Commission office building.



In the Senate Chambers at the Capitol, Governor Albertis S. Harrison, Jr., spoke to the group on the importance of Virginia's natural resources.



The Governor then addresses the group. Photographers from news agencies are present.

ESSAY CONTEST

Commission



Proud winners pose on the steps of the Capitol: (front row, l. to r.) Donna H. Ronald Tignor, Hugh M. Gildea, Richard Fox, Kenneth Holloman; (center) R. Smith representing Aubry Marks; (back r.) Mrs. Sarah Hill of the IWLA, Woodstock, Mrs. Pennington representing Howard Mustian, Mrs. Willie Creed Hastings, Mrs. Evans representing Miss F. B. Williams.



ed award certificates and checks individually to each grand prize winner. Photograph and television stations were on hand to record the presentation of the scholarship prize to Hugh Gildea of Albemarle High School.

WARD CEREMONIES

by Kesteloo



thur Williams, Katherine Gayle Neal, II, Jane Conly, Ben Brown, and Mrs. Wilkerson, State Supt. of Public Instruction. Miss Thelma Petty, Mrs. H. B. M. Saunders.



Winners toured Richmond, visited famous St. John's Church.



At a special luncheon, the contest winners and their families heard words of inspiration from Mrs. Sarah Hill, chairman of the Virginia Division IWLA's conservation education committee.

Why Legal Hunting And Fishing Are Good Conservation Practices

By HUGH MORRISON GILDEA

Cobham, Virginia

IN the light of our present understanding of the complex biological factors which play a part in the lives of forms of wildlife, we know that legal hunting and fishing are good conservation practices.

Often people are slow to grasp this conception. Believing that the welfare of a species depends upon the ability of its individual members to stay alive, they consider the protective measures taken by game officials and the seemingly destructive actions of hunters and fishermen poles apart. Unaware of the natural balance which must exist between the hunter and the hunted, one of the basic laws of creation, they believe that wildlife management is basically the protection of wild creatures from men and animals that would seek to destroy them, and consider limited utilization the answer to most wildlife worries. However, an understanding of the following principles, which we have gradually come to comprehend, helps us to understand why removal of game is imperative, rather than detrimental to its welfare.

A given habitat can support only a certain number of individuals. Each year, more are born in an area than the land can support, and the surplus must be removed in order for the remainder to live. Nature accomplishes this through predators, disease, and sometimes starvation, and game populations remain more or less stable from year to year. Man often disregards the essential ratio which must exist between predators and their prey. As a result, overcrowding occurs and food shortages develop, and the species will deteriorate physically, and become more vulnerable to disease. If hunting pressure is not present to keep the game populations in check, nature must do the job through her slow, and from the standpoint of human benefit, wasteful methods.

The "aquatic pastures" which are the fishes' habitat, like the well-balanced game environment, depend upon a delicate counterpoise. The depletion of a section of the food chain of an aquatic habitat, such as the destruction of predatory fishes, results in an environment not entirely sound, and one which affords neither the best conditions for fish to develop nor the maximum human utilization. Fish populations also produce a surplus, which can easily unbalance a system under any but ideal conditions. Often this can be remedied only by an increase in the removal of certain species. Sport fishing may be an important tool in this removal. The high fecundity of fish enable them to withstand heavy angling pressure, and where the "big fish-little fish" ratio has been upset, this pressure is essential.

Wildlife is a product of the land, just as our agricultural crops are. We should think no more of wasting our game

Scholarship award-winning essay, 15th Annual Virginia Wildlife Essay Contest.

than of leaving our corn to rot in the fields. Measures of management which allow the wildlife to succumb or deteriorate, to the benefit of neither the game itself or man, are defeating the very principle of wildlife conservation—the wise use of this valuable resource.

With these principles in mind, let us examine a few specific situations and see how they apply.

Perhaps it is best to start with the need for a satisfactory equilibrium between deer and deer hunters, because this relationship is often a subject of controversy among land-owners, hunters, wildlife managers, and foresters. Measures employed during the past few decades in the eastern United States to restore deer in areas from which they had disappeared met with considerable success. These restored deer herds often suffer little or no depletion from predators, and often, because of hunting regulations which did not keep pace with the rapid increase in numbers of deer and the inaccessibility of certain areas to sportsmen, hunting pressure has not been sufficient to keep deer populations within the existing food supply. The result has been stunted, hungry, rough-coated, poorly antlered individuals. In some areas, deer have turned to farmers' crops for forage. Overbrowsing on forest lands prevents seedlings from developing into mature trees; a top-heavy population prevents natural regrowth following cutting, and makes reforestation impossible. The answer to the problem is legal hunting—a sensible harvest. Dr. A. Starker Leopold says that “a dense deer population could withstand a kill of at least 40 percent, for this is no more than its natural turnover rate.”

The deer situation is but one case. We should not assume that the surpluses of all species are man's private possession. Consider the fox-rabbit relationship. If hunters take all the excess rabbits, the foxes will be more likely to molest the farmers' poultry.

Game bird populations also comply with the surplus and annual turnover law. A study of quail populations from 1935 to 1938 on a non-hunting area near Blacksburg, Virginia, in which both the number of coveys and the number of individuals in each were checked each fall and spring, revealed that “42.7 percent of the birds died from cold, hunger, disease, and predators, without a shot being fired at them.”

Unless the ratio of such predatory fish as largemouth bass and pickerel to the smaller panfish types is ideal in a farm pond or lake, considerable fishing is essential to prevent the latter from overpopulating. Angling pressure, instead of “fishing out” a pond, tends to make it offer more satisfactory sport. “Take all that your needs, conscience, and the law will allow . . . The problem in management is not how to preserve them, but rather how to remove them.”

Open seasons and other broad laws serve conservation interests by allowing the removal of less desirable or harmful species, which leaves more food and space available for preferable types. Hunting tends to keep crows, starlings, woodchucks, and skunks in check. The removal of “rough fish”—suckers, carp, redhorse, and catfish—under liberal regulations concerning the use of trot lines, set poles, gigs, and nets in catching them promotes the development of more desirable species.

The examples given above, and many others that we could examine, have been observed in long term cases, such as the situation in the Kaibab Forest in northern

Arizona, where, when all predators were removed, the deer population jumped from 4,000 in 1905 to 100,000 in 1923 to 10,000 individuals struggling for survival in the overbrowsed range in 1939, and substantiated by careful research, such as in the Blacksburg quail study mentioned above. All evidence conclusively points toward the fact that considerable removal of game and fish by legal practices not only fails to harm wildlife populations, but actually promotes their welfare.

* * *

Top Cash Award Winners—Fifteenth Annual Wildlife Essay Contest 1961-1962

SCHOLARSHIP AWARD (\$700.00)

Hugh Morrison Gildea, Albemarle High School, Albemarle County

GRAND PRIZE WINNERS—\$50.00 each

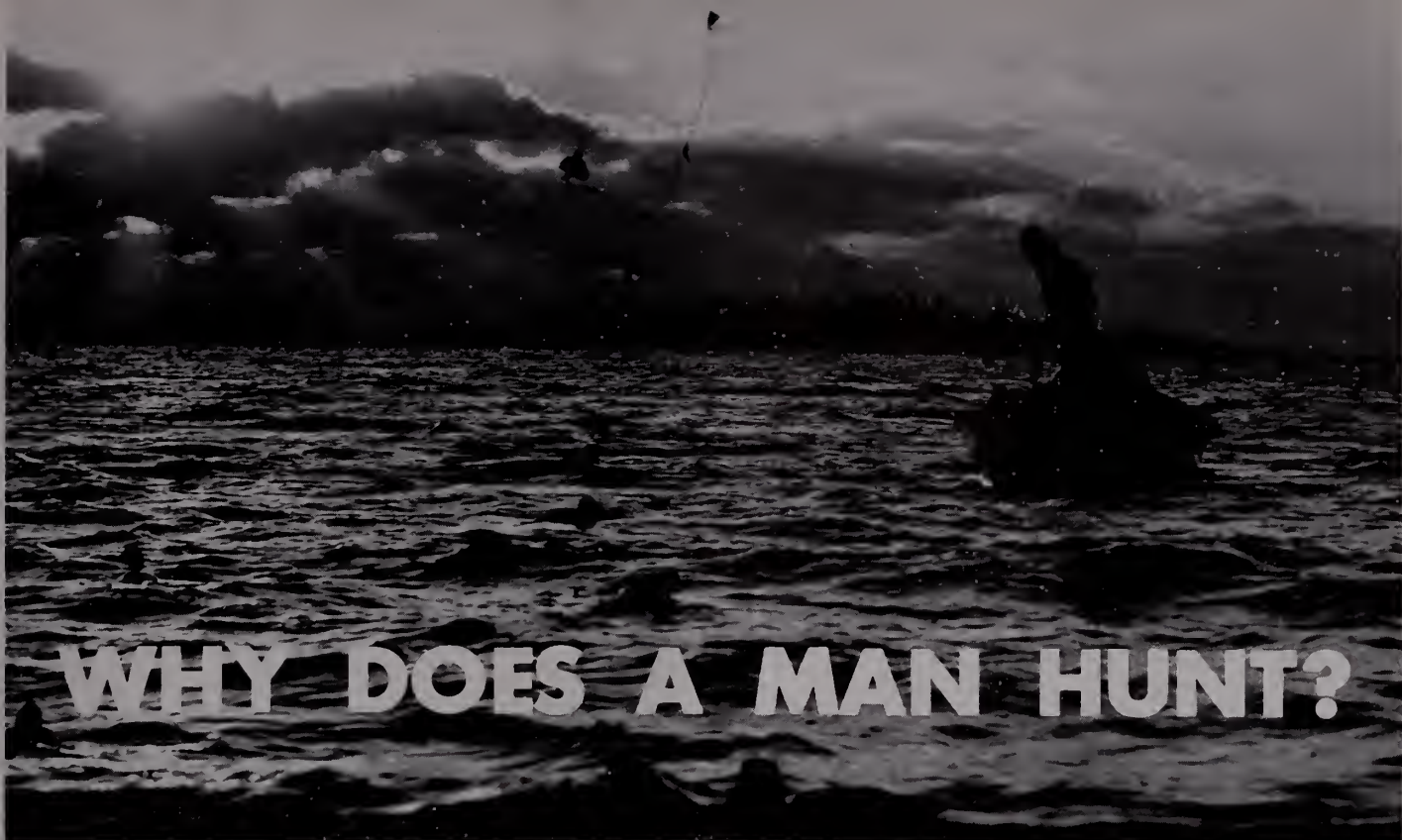
Senior Grade, Arthur Williams, Erinton H. S., Dickenson County
 11th Grade, Ben Brown, Bedford High School, Bedford County
 10th Grade, Katherine Gayle Neal, Climax H. S., Pittsylvania County
 9th Grade, Richard Fox, Tuckahoe Jr. H. S., Henrico County
 8th Grade, Jane Conly, Herndon Int. School, Fairfax County
 7th Grade, Ronald Tignor, Marriott H. S., King and Queen County
 6th Grade, Kenneth Holloman, Kempsville Meadows Elementary School, Princess Anne County
 5th Grade, Donna Hope, Bethel Elementary School, Washington County

SECOND PLACE WINNERS—\$25.00 each

Senior Grade, Elizabeth Ann Morris, Martinsville High School
 11th Grade, Carolyn Osborne, Climax H. S., Pittsylvania County
 10th Grade, Bruce E. Robinson, James Madison High School, Fairfax County
 9th Grade, Glena C. McLaughlin, Francis C. Hammond High School, Alexandria
 8th Grade, Devon Kennerly, Gloucester H. S., Gloucester County
 7th Grade, Keith Rittenhouse, Scottsville H. S., Albemarle County
 6th Grade, Patricia A. Avery, Preston Park School, Roanoke
 5th Grade, Sherry L. Spaulding, Wilson Elementary School, Augusta County

THIRD PLACE WINNERS—\$15.00

Senior Grade, Pichard Francis Papcun, St. Joseph's Central High School, Petersburg
 Senior Grade, Robert Jerome Reynolds, Climax High School, Pittsylvania County
 Senior Grade, Wanda Smith, Willis High School, Floyd County
 11th Grade, Daniel E. Scott, Bedford High School, Bedford County
 11th Grade, Leanne Dennis, James Madison H. S., Fairfax County
 11th Grade, Doris Kimberling, Damascus H. S., Washington County
 10th Grade, Michael Bremigan, James Madison H. S., Fairfax County
 10th Grade, James E. Belshan, Prince George High School, Prince George County
 10th Grade, Bill Dougherty, Prince George High School, Prince George County
 9th Grade, Patty Laipple, Colonial Heights High School, Chesterfield County
 9th Grade, Ricky Lober, Deep Creek High School, Norfolk County
 9th Grade, David E. Crockett, Jr., Suffolk High School, Suffolk
 8th Grade, Pamela Sue Williams, George Mason Jr.-Sr. High School, Fairfax County
 8th Grade, Linda Thacker, Drewy Mason High School, Henry County
 8th Grade, Paul Johnson, Virginia Jr. H. S., Washington County
 7th Grade, Candice Nesbitt, Occoquan School, Prince William County
 7th Grade, Judy Kathryn Edwards, Robert Fulton School, Richmond
 7th Grade, Nancy Homan, Wytheville Elem., Wythe County
 6th Grade, Susan Clarke, Lawrenceville Elem., Brunswick County
 6th Grade, William L. Smith, Deep Creek H. S., Norfolk County
 6th Grade, Donna Virginia Fleenor, Valley Institute School, Washington County
 5th Grade, Karen M. Zaman, Moody School, Alleghany County
 5th Grade, Kay Flanagan, Ridgeway Elem., Henry County
 5th Grade, Joy Addison, Bethel School, Washington County



Commission Photo by Kesteloo

"We approach the hunting season somewhat like school boys who have been set free for the annual vacation."

By DR. MURDOCK HEAD
Warrenton, Virginia

IN many instances, the easiest questions are the most difficult to answer. Why does a man hunt? What combination of forces or series of circumstances induces a modern American to enter the woods in quest of game?

Obviously, there is no simple answer. Yet, this query does deserve serious consideration, and an answer although it be general and incomplete.

The Non-Hunter's Answer

For the non-hunter, the answer to our problem is simple. To him, a man who leaves the comforts of an orderly home to endure the hardships of a camp simply is demented. For what other reason would a rational man endure the food, the cold, and the admittedly inherent danger? We hunters reach for a less biased solution. Our views depend upon our individual depth of feeling and the ability to express ourselves.

Not long ago, I found myself on a deer stand in freezing weather, attempting to avoid the full force of a driving rain. That morning we had driven what seemed to be every laurel thicket on every mountain in the Alleghenies. During the previous three days I had no occasion to contemplate firing a shot. During this time I had ample opportunity to examine this question carefully.

To begin with, the element of contrast appears to be important to the hunter. Life in camp is often diametrically opposed to life in the workaday world. The immediately obvious differences are physical. There is the element of camping out, the bedroll or bunk, the food, the exposure to the elements. For those who are addicted, this is the same thrill that one feels as a boy when one anticipates nights and days spent out of doors. There is the pleasure of the long walks and overcoming the problems of the terrain. We are at-

tracted by the beauties of nature, the rushing mountain stream or the view from the top of the ridge following a morning devoted to climbing toward it. These pleasures men have written and talked of for thousands of years.

Also, I think we must approach the hunting season and the camp somewhat like school boys who have been set free for the annual vacation. We feel, at least for a short time, that our responsibilities and the problems of existing in a complex society may be left behind. This is escape from newspapers, radio, and television, along with the latest political campaign and development in the cold war.

On this point we open ourselves to attack from our critics. This reasoning usually strikes them as being either indicative of a failure to grow up or as overt escapism. In their minds, we have not begun to offer justification for our right to operate high-powered rifles, to expose ourselves to the elements, or to deplete the nation's wildlife.

Social Aspects of Hunting

There is, of course, the social impetus that draws us together during the hunting season. Again this affords contrast to our daily lives. Often there is a reversal of the social structure. Often the most respected man in the hunting camp is unknown in his community. The laborer may direct the hunt while the bank president may have little more responsibility than gathering firewood. Men who have preferred to devote their adult energies to the field and woods have many times voluntarily relinquished opportunities for financial or social status. Hence, in the camp the hunter returns not only to the basic problems of survival, having to do with the elements, the terrain, and body maintenance, but at the same time returns to an existence that affords a simple democratic environment.

Once on a hunt a prominent physician stood next to me as we watched the men around us who were busily engaged in cleaning the morning's kill. We had watched in silence

This material is reprinted from the June 1961 issue of *The American Rifleman*, official journal of The National Rifle Association of America, 1600 Rhode Island Avenue, N. W., Washington 6, D. C. *The American Rifleman* goes monthly to the more than one-third of a million NRA members. Membership is available to citizens of good repute.

for some time when he turned to me and said simply, "These men are free." Most of the hunters in this camp had come from the small mountain communities in the surrounding area. There were lawyers, physicians, bookkeepers, farmers, and laborers in the group. He offered no further amplification of his views.

I thought about his comment for several days. His reference to freedom went beyond the few weeks of the hunting season. He was describing a philosophy whose standards allowed men to hold their love for the woods against the social and economic pressures of today's society. This man was applauding an enviable sense of values—those values which allow a modern man to turn to the primitive environment of the field, as well as creating a need for the simplicity of the camp.

Many of us have found that a few hours alone in the forest represent periods of our most lucid and objective thinking. No man who sits alone on a mountain after the first snow can easily forget the magnificent silence. Nor can most of us resist the opportunity to review our lives and times with the detachment of the animals that are quietly watching us. Few hunters would admit that this opportunity for reflection represents the paramount drive in their desire to return to the hunting camp. Yet, this is true in many instances. The sociability of the camp after the day's hunt is, of course, an important factor, but this lasts for a relatively short time when one thinks of fatigue after the activity of the day. Many times the period a man devotes to hunting is the only time he is actually alone or has an opportunity to think for any protracted time without interruption.

A Dedicated Hunter

One of the most revealing stories regarding a dedicated hunter's sense of values was told to me last year. I had spent an afternoon driving next to a young man whose obvious abilities as a woodsman were cause for me to comment on these qualities to an acquaintance. He readily agreed this fellow was indeed an outstanding hunter partly because he had hunted every year for most of his life. A story regarding this man followed. His home was in a community near the heavily forested region in which we were then pursuing our elusive bucks. He had been a high school football player—and had finished college in the area several years before. He had spent every free day in the woods since he was old enough to carry an air rifle. In his late 20's, he was considered to be one of the best hunters in this area. Here was a man who had truly found happiness in his native environment and had obtained a position as a high school teacher in the local school. Being a good teacher, he was respected by his colleagues and beloved by his students. The young man now lived for two things—his teaching and his beloved mountains. His superior in the educational program was not in sympathy with his hunting. He felt, furthermore, that this interest was a bad example for the high school students which this young man taught. In September prior to the opening of the deer season in November, the teacher returned to resume his classes at the school. At this time, his superior called him into his office to inform him that his contract for that year's work depended upon a signed agreement indicating he would not participate in deer hunting that year. The young teacher by this time had acquired a wife and a small child. With no hesitancy, but with misgivings

Chairman of the Institute of Forensic Medicine at the George Washington University in Washington, D. C., Dr. Head holds degrees in medicine, dentistry, and law. In April 1961 he became host of a TV series, "Your Decision," with programs on such subjects as the doctor shortage in the United States, international law and medicine, air pollution, outer space law, economic redevelopment of underprivileged countries and Communism. His 1,200-acre estate in Fauquier County, Airlie, has been developed as a residential conference center devoted to national and international affairs. In June, 1962, a medical clinic was opened on the property.

because he was a devoted teacher and aware of the needs of a family, he refused to sign the agreement. At the time of our hunting, he had taken a selling job in a nearby store.

The following day I watched this boy closely as he happily scrambled up the steep slopes and fought his way through the laurel thicket. This was a 'free' man. He had made his decision. His position is indeed difficult, or perhaps impossible, to defend to the man who has no interest in hunting. I was glad to hear before I left this camp that a petition had been signed by several hundred people in the county demanding his reinstatement. I have no doubt he will be—and hunting again next year.

Elements of the Hunt

In discussing the motivation of the hunter, I think there is an element of anticipation which is most difficult for us to describe. This feeling is a mixture of the spirit of the gambler in combination with that of the athlete. The gamble, of course, is finding the game. Here a man must use all of his senses—his sight, his smell, his hearing, and even his subconscious—to match wits with wildlife. If he wins in his gamble and locates his quarry he is in a position to employ his skill and reflexes in bringing down his game. Many factors enter into his success or failure. There is the consideration of his firearms and ammunition. Was his gun chosen properly? Did it receive adequate care? Has he taken time to learn to use it swiftly and accurately? Also, there are the physical factors. How did he feel on the day of the hunt? Was his vision adequate for the task at hand, or was he too fatigued to act at the time of his opportunity? For the hunter, there is no thrill to compare with the moment he hears the whirl of wings or sees the flash of horns. These split seconds are wonderfully exciting. Without them, the hunter would certainly lose much in his experience. Many believe this to be the primary reason for the sport. I, for one, believe that this is too simple an answer. One must also consider and give equal weight to the considerations we have previously discussed.

A growing number of Americans believe sincerely that hunting should be restricted. Many others believe it should be prohibited entirely. The logic behind these movements varies from an interest in public safety in regard to firearms to an interest in protecting our wildlife.

I will not attempt to answer the complex problem of hunting safety about which much has been written. This is a situation which can and is being aided by education. Because of the interest of the hunter, the wildlife population in this country has increased rapidly over the past few decades. Commercialization and commercial hunting depleted

(Please turn to page 21)

Rabies And Wildlife

By JAMES R. PICK, DVM

RABIES occurs in two types throughout the world, the encephalitic form seen in domestic dogs and the sylvatic or campestral type in wildlife. This classification is according to the natural spread of the disease. Differentiation of the two types is difficult, and simultaneous occurrence of both forms depends on the amount of contact between wild and domestic species, relative population sizes, and the immunity level of both populations.

In North America, rabies is known to have been epizootic in foxes in Massachusetts during the early part of the 19th century, in Alabama in 1890, and in Alaska in 1915. It has become prevalent in eastern and southern United States since 1940. A focus of rabies in foxes appeared in New York state in 1945 and is still active, although dog rabies has been controlled since 1947. Epizootic rabies occurred in coyotes in California, Oregon, and Nevada in 1915 and 1916. Skunk rabies was first reported in North America in California in 1826. In 1873, the deaths of at least 40 cowboys and hunters were attributed to bites of rabid skunks in Kansas, and 100 deaths from the same source occurred in Arizona from 1907-1910. The small spotted skunk, *Spilogale putorius*, became known as the "phobey cat" due to its transmitting hydrophobia to humans.

The incidence of the disease increased sharply in 1953 with epizootics occurring in skunk populations in Iowa, Minnesota, South Dakota, Texas and Wisconsin. An outbreak occurred in California in 1954, and skunk rabies was reported in 24 states in 1955. In 1959, New York showed the largest increase in incidence of rabies cases, reporting 471 cases as opposed to 262 in 1958. This increase was due to an epizootic in foxes in seven counties in western New York previously rabies free. This represents the worst outbreak in the state since 1946.

In 1958, six cases of human rabies deaths occurred. Of these, one each was caused by the bite of a fox, a skunk, and a bat. Of the six cases of rabies deaths in 1959, none were definitely attributable to the bite of a wild animal. In January of 1961, a human death occurred 59 days after the individual was bitten on the leg when attacked by a rabid fox.

Dr. Pick is a 1961 graduate of the school of Veterinary Medicine, University of Georgia, Athens, Georgia. His article is reprinted from *The Southeastern Veterinarian*, Vol. XII, No. 3 (summer 1961), which is published quarterly under the direction of the University of Georgia Student Chapter of the American Medical Association in Athens.

In recent years, 20 percent of human rabies deaths in the U. S. have been caused by the bites of wild animals, including the striped skunk.



The present program of control of rabies in domestic species has been successful in reducing the number of outbreaks attributable to pets. It has brought to light the apparent increase in the incidence of rabies in wild animal populations. These outbreaks in wild species have resulted in huge livestock losses as well as causing a threat to humans. In the past several years, 20 percent of human rabies deaths in the United States have been caused by the bites of wild animals, principally foxes and skunks. It is also apparent that sooner or later the disease in wild species spills over into canine populations, and the hazard of human exposure is thereby increased.

In the United States, the principal wildlife vectors of rabies are the gray fox (genus *Urocyon*), the red fox (genus *Vulpes*), the small spotted skunk (genus *Spilogale*), and the large striped skunk (genus *Mephitis*).

The coyote has not been recently incriminated in vast outbreaks, but rabid coyotes were reported from two counties in Colorado in 1958. A wolf showing untoward friendliness and refusing to leave a pasture was destroyed and found to be rabid. This incident occurred in Arkansas in 1960, the wolf having strayed from a local refuge. The only important focus of rabies in raccoons occurs in Florida. Surveys of small rodents trapped in high enzootic areas and epizootic areas of fox rabies revealed no evidence of infection, confirming the supposition that these species do not serve as reservoirs of the disease.

Up to 75 percent of the submaxillary salivary glands of naturally infected foxes have been shown to contain live virus. There is no report of a salivary gland being infected without evidence of central nervous system disturbance in the fox, hence there are no asymptomatic carriers. Surveys of population densities show that a high number of susceptible foxes is necessary for an explosive outbreak (epizootic), but a low population level will sustain an enzootic. High populations of foxes found adjacent to enzootic regions suggest some ecological barriers must exist which limit the spread of the disease. Experimental studies on 28 foxes and 25 skunks by R. K. Sikes show skunks to be 100 times more resistant to infection than foxes when injected with infected salivary tissue. Incubation periods were found to be inversely proportional to the dose of virus inoculated, with a range of 12 to 109 days in the fox and 14 to 88 days in the skunk before onset of symptoms. The skunk excretes more virus in the saliva than does the fox, and 10 of 24 foxes and 15 of 18 skunks exhibited virus in their saliva. Foxes survived one to three days after symptoms evidenced and skunk survived one to nine days. Other studies showed foxes evidenced long periods of illness and one fox showed virus in its saliva for a period of 17 days.

Symptoms exhibited by wild animals infected with rabies include temperament changes ranging from a lack of normal fear of man to aggressiveness and savage attacks. Skunks



The red fox is one of the principal wildlife carriers of rabies. Other principal vectors include the gray fox, the spotted skunk and the striped skunk.



EJB

Humans receive bat bites while handling moribund, or "sleeping," bats in caves.

show the furious form at some time during the course of the disease, and attack silently with their tail held straight out behind them. Their biting is aimless, and they will attack whatever area is contacted first. A rabid skunk will not use its normal defense mechanism when attacking and will usually not scent even when shot and dying. Humans bitten by animals are more often attacked rather than being bitten while handling a moribund animal as is the case in many bat bites.

Rabies eradication or reduction to a minimum can only be accomplished by including the wild fauna of the country in the control program. Individuals can protect their own domestic animals by protective fencing of small areas and by restricting their animals to their own premises. Prophylactic immunizations are also important in the protection of domestic species. Reduction of wild vector species in areas where they play an important part in maintaining the disease and spreading it to man will also be necessary.

This reduction should not be construed as an attempt to totally eradicate a particular species, but should only reduce the population to a level that will no longer support the disease. This reduction should be placed in the hands of those qualified to fully understand all ramifications of the situation and perform the duty to the mutual satisfaction of all concerned.

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PUBLIC HUNTING IN AMERICA

(Continued from page 6)

tion Resources Review Commission will help to stimulate more widespread support for the establishing of additional game management areas in all parts of the country. The Departments of Interior and Defense recently agreed to open and develop the land around federal reservoirs for maximum recreation and wildlife production.

Another sweeping directive from the Pentagon ordered the commanders of all military installations to work out wildlife management and public recreation programs in cooperation with state conservation departments.

Both the U.S. Forest Service and the Bureau of Land Management, which between them control nearly 400

million acres of the most important and extensive public hunting grounds in the nation, are striving to broaden their recreational programs. Some access roads are being built to distribute hunting pressure and to open inaccessible portions of the lands. Steps also are being taken to secure access rights to the national forests and public domain across intervening private lands. This thorny problem blocks hunting access to millions of acres of federal lands.

The Secretary of Agriculture made the startling disclosure recently, in announcing a new farm program, that 51 million fewer acres will be needed in crop production by 1980. He urged Congress to authorize new programs to give farmers technical and financial assistance in devoting the acreage to wildlife and recreation. He wants lands now devoted to the wasteful and needless production of surplus crops used to provide two products for which there is unlimited demand—wildlife and recreation.

This thinking, which was unheard of on the national level only 10 years ago, means that we are on a new frontier of considerable importance to the hunter and recreationist. Private lands provide most of the upland game and a goodly portion of the big game hunting opportunity, and if this new agricultural thinking is put into law and implemented, we have the pleasant prospect of getting millions of acres of better-grade wildlife habitat.

Many promising things also are being done on the state level. Nearly all of the conservation departments of the eastern and midwestern states, where the need is most urgent, have initiated programs designed to assure the sportsman of more places to hunt. These programs vary from outright purchase to long-term leasing.

New York, Michigan and Pennsylvania pioneered this work many years ago and, among them, they acquired millions of acres of land where the sportsman is welcome.

Several states—California, New York, New Hampshire, Vermont, New Jersey, and Wisconsin—are going all-out now on the acquisition of recreational lands. California, since 1947, has allocated \$13 million in state pari-mutuel funds to wildlife projects, including land acquisition for public hunting. New York recently embarked on a far-reaching program of recreational land acquisition financed by a \$75 million bond issue. Wisconsin just launched a \$50 million program of a similar nature to be financed by the earmarking of a 1¢ tax on cigarettes. Pennsylvania's legislature has tentatively approved a \$70 million program.

Some states, which have not yet obtained adequate funds for such elaborate programs, have devised other ways of opening new areas to hunters. The posting of safety zones around dwellings, occupied buildings and working areas on farms has opened much previously closed land to hunting.

Many states also have produced good hunting by various means in areas where little hunting existed before, especially on state forests, state parks and other public property. In cooperation with state foresters, the game agencies have broken up large blocks of unproductive wildlife cover by bulldozing or controlled burning and have planted the strips to grasses, fruit-producing shrubs, and other wildlife foods. Firelanes, powerlines, and other required clearings have received similar treatment.

The states and the federal government, however, cannot do the whole job. The sportsman must do a great deal more than merely purchase the required hunting licenses

and permits to help himself to better hunting in the future.

One of the most important things that he can do is to make a real effort to understand the basic principles of modern wildlife management. Nearly all of the states are handicapped in attempts to provide better hunting by misguided public sentiment, stemming usually from sportsmen's groups. The public often insists that bounty payments be continued, even though professional wildlife opinion is nearly unanimous in stating that bounties are a waste of funds. The millions of dollars that are spent on bounties could be used profitably for the purchase and development of wildlife lands. Many states still are saddled with costly and wasteful game-farm programs, at a time when the squandered money should be put to better use.

Some state departments also are slow to realize the challenges and opportunities of the 1960's. It is up to the sportsmen to insist upon the initiation of programs and practices that look to the future.

Except for the pressures brought to bear on game commissions and state legislatures, many hunting regulations could be liberalized greatly, providing much additional sport for more hunters. Deer are almost universally underharvested, but many states are forced to adhere to rigid buck laws or to have such limited antlerless deer seasons that many animals are wasted through disease and winter starvation. Most states easily could expand their deer seasons, which would distribute hunting pressure over a longer period of time and break up concentrations of hunters that lead to hazardous hunting conditions.

Instead of that, ill-advised efforts by both sportsmen and legislators in some states have succeeded in taking the regulatory powers for the opening and closing of seasons away from the fish and game departments and handing the control or veto power to county boards, and you know what happens. County supervisors are not equipped to make the necessary checks, investigations and determinations, so you get political decisions.

The same problem of underharvest applies to many small-game species in a lot of states, because unrealistic regulations have been adopted by game departments to satisfy overconservative sportsmen.

Hunters can do a great deal to provide additional sport. For one thing, they can seek out areas away from the crowds where hunting pressures are light. This requires some effort, but less than most sportsmen seem to realize. On the opening day of the deer season, it is common to see cars lined up almost bumper-to-bumper along woods roads with so-called hunters standing around waiting for the deer to come out. The few who venture a mile or so from the roads rarely see another hunter outside their own party, and they are the ones who usually drag in a deer before dark.

The individual hunter can help to maintain his own sport by conducting himself as a sportsman at all times while on private property. Much posted land is open to the man who asks permission to hunt, and it will remain open as long as he conducts himself as a gentleman. He has an obligation to teach his sons the same outdoor manners, and if he can instill a little decency into others, so much the better.

Good sportsmen will go all out to promote programs like the NRA Hunter's Code of Ethics and Shooting Safety Programs, and the Hunt America Time Program of the

Izaak Walton League of America. The success of such projects will have an important bearing on the amount of public hunting that will be available on private lands five, 10, or 20 years from now. Furthermore, when the time ever comes that millions of hunters are making use of name-and-address cards like that bearing the NRA Code of Ethics, and are identifying themselves to landowners when they ask for permission to hunt, you can begin to quit worrying about the future of public hunting in this country.

The sportsman of the future may have to accept a degree of regimentation that some of us would regard as oppressive today. The same holds for automobile use, daily activities, and community living. It is likely that people will be told when and where they can hunt as well as what and how much they can shoot. Special licenses for specific areas and possible for prescribed times may become commonplace. Various kinds of special permits already are in use in most western states to regulate hunting on specific herds, or to apply more gun pressure on ranges less accessible to the public.

There also may be some extension of restrictions upon who may hunt. Twenty-eight states already have adopted the excellent Hunter Safety Training Program of the NRA. Knowledge of proper firearms use and hunter courtesy is going to become a prerequisite to the issuance of licenses to young hunters. New York's Conservation Department is conducting a study to see if the eyesight of hunters has a bearing upon hunting accidents.

I feel that hunting is a sport that we shall all be able to enjoy for as long as sportsmen and wildlife administrators can work together to solve mutual problems. Many hunters undoubtedly will have to pay more and travel farther for their sport. The hunting will not be entirely like it is today. Modern outdoor sports are not what many of us knew 30 or 40 years ago. But there will be hunting, and it will be good.

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WHY DOES A MAN HUNT?

(Continued from page 18)

our resources. In regard to the deer population, the hunter is now doing a real service in reducing the herds so they do not starve in their competition for food. Most good hunters scrupulously regard the game laws in their activities. One man in our group this past deer season saw some 20 does pass him during one drive. Actually, these females should be thinned out, especially the older ones, and most states have passed laws allowing for this.

For the most part, hunters are not ruthless slaughterers of game who pursue and kill for the perverse pleasure of destruction. To most of us the kill is the least important aspect of the sport. Many men carry a rifle for days with ample opportunity to bag game, and do not because they neither wish the trophy nor need the meat. Many hunters spend much more time in observing the habits of wildlife than in shooting. This is an important concept to convey to the majority of people in this country who do not hunt or possess firearms.

I believe it to be the duty of each of us as sportsmen to help in informing the non-shooting public of our position. Perhaps if we understand our own psychology with regard to our sport, we can better define our position to our less sympathetic neighbors.

The Amazing Glass "Snake"

Text and Photos by HOWARD E. UIBLE
Washington, D.C.

IT is not surprising that the long, slender, legless serpentine creature pictured here is frequently mistaken for a snake. The herpetologist and the more careful observer, however, will correctly recognize the creature as a lizard. From many persons, the fundamental question arises, "How can I tell it is a lizard and not a snake?" Closely examining the head of this animal we will note that it is able to blink its eyes, behind the jaw there is a small opening—the ear, and the scales on the belly are the same size as those on the upperparts. All of these characteristics are shared with lizards and all are lacking in snakes. This unusual-looking lizard lost its legs millions of years ago as an adaptation to its burrowing life.

Glass "snakes" inhabit much of the United States and northern Mexico. Other representatives of this genus are found in Europe, southern Asia, and Borneo.

Known to the scientific world since 1803 as *Ophisaurus* (*Ophi*, Greek meaning serpent-like; *Sauros*, Greek meaning lizard) this fascinating creature has acquired throughout the years such vernacular names as glass "snake," joint "snake," and glass lizard. These names were well chosen when we consider that not only do the small shiny scales of the body reflect with the brilliance of glass, but the tail is unusually fragile and breaks as easily into sections as would a glass rod.

Glass lizards lack practically all of the usual means of defense. Their bodies are more rigid than snakes which makes it difficult for them to traverse uneven areas, their teeth are very small, and they lack the swiftness necessary to out-manuever a predator. Their principal means of survival is the construction of the tail which not only can be disengaged from the body, but when struck breaks into several smaller sections. Imagine a hungry predator or a young naturalist about to seize his quarry who suddenly discovers this unusual trait. These tail sections, when detached from the body, wiggle so energetically that they invariably attract the attention of the aggressor. While the pursuer is engrossed with the useless tail sections, the abbreviated owner creeps unnoticed to safety.

These creatures grow to about three feet in total length and over two-thirds of that length is tail! After the tail is lost, a new one is grown although it never quite reaches the length of the original one. Glass lizards are preyed upon by carnivorous mammals, birds of prey, and snakes and it is seldom that an adult is found with his original tail. As one would expect, many fanciful notions have arisen about glass "snakes" because of this amazing characteristic. One of these is that this is their means of reproduction, each section growing into a new individual; another is that the tail-less owner goes back to collect the sections and attach them in their respective places on the body. Of course both of these are untrue since the tail consists only of flesh and cartilaginous material.

Glass lizards are most active during the night although they are occasionally seen sunning in the morning and evening, but apparently they cannot tolerate the hot sun which most lizards enjoy. They prefer moist areas, piles of de-



Glass "snake" in its natural habitat of moist loose soil and leaf-mold. Notice the high luster of the small scales which gives the creature a glassy appearance.



Two features which readily identify this animal as a lizard rather than a snake are the eyelids and ear opening.

caying vegetation, and loose soil in which they burrow for grubs, insect larvae, worms, spiders, etc. In this respect they are quite useful and should never be killed.

Like all other reptiles, the glass "snake's" body temperature varies with that of its surroundings, and therefore in areas where the temperature falls below freezing, they must hibernate if they are to survive.

In June or July the female lays four to seventeen white, leathery shelled eggs less than one inch in diameter. Unlike most lizards and many snakes, the female glass lizard remains with her eggs to turn and protect them as best she can from predators. Since she is not capable of warming the eggs with heat generated within her own body, the female glass "snake" has developed a very fascinating habit: She will lie in the sun to raise her body temperature above that of the surroundings, then hurry to her eggs and share the acquired warmth with her brood of eggs by coiling around them to transmit heat. After an incubation period of 56 to 61 days the youngsters, less than five inches in length, hatch. From then on the mother gives them no further attention or protection.

Glass "snakes," in addition to fulfilling their part in the balance of Nature, are of little economic importance; they are nevertheless of great interest. Being one of the most widely distributed of North American lizards, it is surprising how little information has been accumulated about them. The fascinating and unusual nature of glass "snakes" has indeed stimulated more than average interest, but because they are shy, secretive, nocturnal, and spend a considerable amount of their time below the surface of the soil, they have managed to keep most of the secrets of their mode of life in their natural habitat to themselves. With this in mind, valuable information can be furnished by the amateur naturalist by observing and accurately recording their habits and life history.

By DR. J. J. MURRAY
Lexington, Virginia

The Barn Swallow



ALL over the Old Dominion the barn swallow can be found in summer. Strange to say, it is much more common at the extremes, on the coast and in the valley, than it is in between in the Piedmont. It is least common in south-central Virginia.

In the old days, when Virginia belonged only to the Indians, barn swallows nested in shallow caves and in protected crevices in rocky cliffs. Apparently the only such place in use today in the East is at the Sinks of Gandy in West Virginia, where in a lonely spot Gandy Creek disappears into a wide opening in a hillside. Here in the shadow a dozen or more pairs raise their young.

Now the birds use the shelter of buildings. On the sills of the high floors of Coast Guard stations on the coast, on the rafters of barns at Hightown in Highland County, inside garages on Valley farms, and under highway bridges, wherever man has provided shelters, these friendly and useful birds establish their homes.

Here, sometimes as a single pair, more often in little colonies, barn swallows rear their families, and having reared them lead them out to the open air where they can teach them to hunt. Until the young birds are skillful enough to capture their own food in the air, the old birds station them on telephone wires while they bring food to them.

The nest is firmly built of mud, reinforced with grasses and lined with finer grass and soft feathers. The eggs, usually four or five but sometimes six in number, marked with lovely brown or reddish spots, are laid in early May or even in the last week of April. Sometimes two broods are raised in a season.

Barn swallows reach Virginia from the south in March and remain until about the first of October. In Rockbridge County there seems to be a gap in late August between the leaving of our nesting birds and the passage of migrants from the north.

Both in appearance and in actions the barn swallow is one of our most attractive birds. It is easy to distinguish from other swallows by its long and deeply-forked tail. The throat and upper breast are reddish-brown, the lower breast tinged with pale reddish-yellow, and the upperparts a steely blue.

It is a superb flyer, spending hours at a time in the air, taking practically all of its food and water on the wing, and carrying out most of its courtship in an excited and noisy flight. Flying high or skimming over the grass, with sharp turns and swift dives, darting through narrow openings into its nesting place, the barn swallow has an admirable control of its movements.

This swallow's food is almost 100 per cent insect, of which the overwhelming proportion consists of insects that are harmful from the standpoint of man's interests. For this, as well as for its beauty, it should be encouraged in every way possible. A tightly built modern barn makes it difficult for the bird to find entrance into its nesting places. If you want barn swallows, you must leave openings under the eaves for them to pass through.



Edited by DOROTHY ALLEN

Young Nimrods Learn Safety Rules

Eight youngsters completed a hunter safety course conducted May 5 in Buckingham Central High School. J. N. Kerrick, safety training officer with the Game Commission, conducted the course, assisted by three other certified firearms instructors: Malcolm Booker and Charlie Spencer, Buckingham County game wardens, and Armistead Burke of Richmond. Following successful completion of the examination at the end of the course, graduates awarded the NRA Safe Hunter Patch were: Brady Jones, James Martin, Herbert Maxey, Jr., Larry Maxey, Rommy Ragland, Grandy Llewellyn, John Wood, Jr., and Johnny Booker.

Clarke County Bowmen Honor Essay Contest Winners

Proceeds of the spring tournament held by the Broken Arrow Archery Club were awarded to Clarke County winners of the 15th annual wildlife essay contest. The writing talents of J. Gary Ferree, 11th grader at Clarke County High School, and Carol Gracc Handy, Berryville Elementary School 6th grader, won special mention in the statewide contest. Blake S. Denney, state game warden who presented cash awards to the winners from the contest co-sponsors—Virginia Game Commission and Virginia Division, IWL—also awarded the checks



Photo by W. M. Rhoden, Jr.

Broken Arrow Archery Club Treasurer Norman Tavenner of Berryville turns over the club's spring tournament receipts to Warden Denney for supplemental awards for local wildlife essay contest winners.



Richmond Newspapers Photo

It took three young fishermen—Jack Hack, Bill Overby and Ray Newman—to land this 30-pound carp from a small pond near Seven Pines this spring.

from the archery club in elementary and high school programs on May 24 and 31, respectively.



Dr. S. C. Patterson of the Prince Edward Wildlife Club presented awards to winners of a local wildlife essay contest. Getting her first-place prize, in the sixth and seventh grade group, is Lorraine Smith, of Farmville. At left, front row, is Ruth Earle Jenkins of Green Bay, winner in the eighth and ninth grade group. At rear (left to right) are Burt Hanbury of Farmville, first-place winner in the upper grade group; Tony Glenn of Prospect, Steve Brooks of Farmville, and Marshall Cook of Rice, second-place winners.

Denney Wins FFA Farmer Degree

Blake Denney, Clarke County game warden, was awarded the Honorary Chapter Farmer Degree at the annual father-son barbecue of the Future Farmers of America held May 31 on the Berryville Ruritan Club grounds. The degree was conferred in recognition of Mr. Denney's services to the chapter. Each year he aids the members in securing seed for wildlife plots and arranges for prizes to be given to the members with the best food patches. He appears at various meetings of the chapter to answer questions on game and fish laws and helps the chapter with annual wildlife essay contest participation.

Warden Gives Wildlife Awards

Joe Bellamy, Chesterfield County game warden, presented the Colonial Heights High School wildlife essay winners with their certificates and prize money at a special assembly. Mrs. Nancy R. Rives, chairman of the Science Department, attended the conservation workshop for teachers and is an enthusiastic promoter of conservation education. All students in the eighth- and ninth-grade science classes participated in the 15th annual wildlife essay contest. We are very proud to have in the Virginia school system teachers like Mrs. Rives, who believe in the importance of conservation education and who do such a fine job of promoting its importance in science classes.



Commission Photo by Kesteloo

Shown above with teacher Mrs. Rives and warden Joe Bellamy are Colonial Heights High School essay contest winners: (l. to r.) Patty Laipple, 9th grade, \$15; Martha Cannon, 9th, \$10; Cean Wightman, Zelda Sadler, Bobby McFarland, and Tommy Evans, 8th, \$5.



Edited by HARRY GILLAM

Young Rockfish Are Homebodies, Then Vagabonds

Young striped bass stick close to their native territory in Chesapeake Bay while young, according to the results of a study conducted by several Chesapeake Bay marine fisheries agencies. Strippers under 12 inches rarely leave the river where they hatched, the survey found. Slightly larger specimens roam more but seldom leave the bay. Adults are more adventuresome and explore the coast as far as northern New England.

Maryland's Chesapeake Biological Laboratory, the Virginia Institute of Marine Science, and the U. S. Fish and Wildlife Service Beaufort Biological Laboratory plan to tag additional junior and adult size rockfish so more can be learned about their movements.

Third Southeastern Crowned Snake Found In Virginia

A third specimen of *Tantilla c. coronata* has come to light as a direct result of an article appearing in the May 1961 issue of VIRGINIA WILDLIFE.

A student of Madison Heights High School found the southern crowned snake in the vicinity of Lynchburg, Virginia, and turned it over to Eugene Ramsey of the faculty. Dr. James L. Chamberlain, Department of Biology, Randolph-Macon Women's College, and member of Virginia Herpetological So-



The Virginia Bowhunters Association's "Bill Bennett Big Game Award" is named after the Nimrod pictured above. Bennett, who runs a fur farm near Christiansburg, is an archery pioneer who probably downed the first legal deer killed in Virginia with a bow during an archery season—an eight-point buck at North River Refuge in Augusta County in 1950. Since then he has killed 10 deer—including the one above—and one bobcat with the bow. His donation of a mink scarf to be raffled off provided the funds for the initiation of the VBA Big Game Award in 1951.

ciety, confirmed the identification.

According to Dr. Roger Conant, this small, brown, rear-fanged snake is "almost always hiding—under stones, in rotting logs, etc."

Correction—Surf Fishing Data

Following are corrections to the table carried on page 12 of the June issue, VIRGINIA WILDLIFE, giving locations for catching salt-water sport fish: bluefish, large—offshore ocean waters; bluefish, small—in and near ocean inlets; white marlin—offshore ocean waters; bluefin tuna—offshore. Channel bass fishing, at anchor, with cut bait and shedder crab—Barrier Island beaches and Fisherman's Island to Cape Charles; trolling for the red drum with spoons and jigs—Fisherman's Island-Smith Inlet area and off Kiptopeke.

Making Salt Water Daffy

Will multiplying man-made moons
(O shades of Aphrodite!)
In time confuse the briny deep
And tides become un-tidey?

—GLADYS B. CUTLER

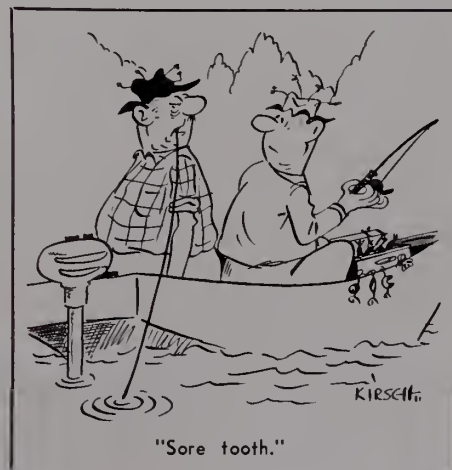
Book Review

OUR WILDLIFE LEGACY, by Durward L. Allen (Revised edition). Basic ecological principles governing the well-being of fish and game are eloquently featured in this expanded and updated edition of Dr. Allen's book, first published in 1954. The Purdue University professor emphatically propounds the thesis that only through proper provision of life's necessities in the water and on the land can we assure a continuing abundance of fish and wildlife.

He thoroughly analyzes continuing troubles resulting from the mis-management of deer, stocking of fish and game birds, and predator control, due to public indifference, lack of understanding, or disregard of biological facts. About three-fourths of the book is devoted to game problems. The expanding human population is contributing to decline of the wildlife resource, Allen concludes. He predicts that it will finally level off at a much higher level than is ecologically or socially desirable. Published by Funk & Wagnalls Co., Inc., New York 17. Price, \$6.50; 422 pg.



Hal Lyman (left), publisher of Salt Water Sportsman magazine, and George Heonold (center), salt water editor of Outdoor Life magazine, watch as Claude Rogers, director of the Virginia Salt Water Tournament, weighs in a black drum caught out of Oyster recently.



ON THE WATERFRONT



Edited by JIM KERRICK

Precautions Can Prevent Theft Of Outboard Motor

Captain Hook and the days of piracy are gone, but modern-day thieves still present a problem for outboard skippers. Each year thousands of outboard motors as well as complete boating rigs are stolen. In many cases, the loss could have been avoided had a little extra precaution been taken by the owner.

There are several things a boatman can do to discourage theft of his equipment, say the people at Evinrude Motors who handle stolen motor complaints. On most outboard motors, holes will be found in the handles of the clamp screws used in securing the motor to the boat. If the clamps are tightened so that both handles point downward, a regular bicycle lock can be passed through the holes making it impossible to remove the motor without first disturbing the lock.

A boat stored outside and left unattended on a trailer is easy pickings for a thief. All he need do is attach the trailer to a car and speed off. If you store your rig outside, it's a good idea to lock it down in some manner. A heavy chain can be used to secure the trailer to some stationary object such as a tree or post. Another solution is to chain one of the wheels to the axle. Anything you can do to make it difficult to hitch the trailer without causing a commotion will help.

If your boat is kept in the water, it's a good idea to keep the area lighted at night. Many thieves are quite bold but most prefer to work under the cover of darkness. A light may be enough to keep them away.

Insurance won't prevent theft but it will make your loss less serious if it should occur. It's only good sense to have your rig fully insured for its current value at all times.

To establish a record of ownership, the Evinrude people suggest that a new motor be registered with the manufacturer at the time of purchase. When buying



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a used outboard, make sure that the bill of sale, which should be kept, includes both the model and serial numbers of the engine. If you should experience the misfortune of having your equipment stolen, immediately report the theft to local law enforcement officers and to your insurance company.

Plan For Safety—Use This Check List

Legal Requirements*

Lights operating and satisfactory.
Lights visible through proper points.
Lifesaving devices of approved type.
Lifesaving devices in satisfactory condition.
Lifesaving devices in sufficient number.
Flame arrestor of approved type.
Fire extinguisher of approved type.
Fire extinguisher of adequate size.
Fire extinguisher in satisfactory condition.

Whistle adequate.

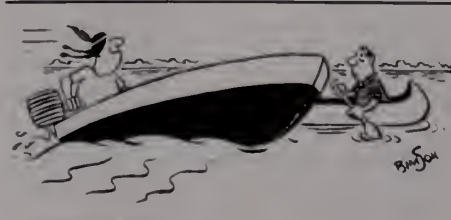
Bell adequate.

Ventilation adequate.

Auxiliary Recommendations*

Galley stove of recommended type.

Galley stove installed as recommended.



Fuel tank filler pipe tight to deck plate.
Fuel tank filler pipe outside of coaming or within selfbailing cockpit.

Fuel tank vents installed leading outboard.

Lifesaving devices easily accessible.

Fire extinguishers easily accessible.

Bilges clean and free from oil and grease.

Electrical installation satisfactory.

General vessel condition satisfactory.

Anchor and sufficient line.

Additional Recommendations For Class A Motorboats

Pump or bailer.

Paddle or oar.

Distress flare.

*Vary with class of boat and type of construction.

The Weather

SKY

Red in the morning.

Sailors take warning;

Red at night,

Sailors' delight.

Evening red and morning gray

Are certain signs of a fine day.

A mackerel sky with mare's tails

Makes tall ships carry low sails.

WIND

Wind before rain—

Let your topsail remain;

Rain before wind—

Then your topsails mind.

When the glass falls low

Prepare for a blow;

When it rises high

Let all of your kites fly.

FISHING

Wind in the west.

The fish bite best;

Wind in the south.

Hook 'em in the month.

Wind in the north.

Time to sally forth.

Wind in the east.

The fish bite least.

GENERAL INFORMATION

Both in safety and in doubt,

Always keep a good lookout.

In danger, with no room to turn,

Ease her—stop her—go astern.

LETTERS

YOUR magazine is by far the *best* magazine of this type I have ever seen.

I surely sympathize with you on your big dam problems. Your state game management seems to be very advanced and farsighted. The reports on what the various divisions are doing seem worthwhile, too.

I enjoyed your article on bluebirds in the April issue. We are lucky to have bluebirds as well as many other birds in our wooded section of the city. One nesting site you neglected to mention was rural mailboxes and newspaper delivery tubes. We have a pair of crested flycatchers in our paper tube this year.

Mrs. Robert Schneider
Oklahoma City, Oklahoma

I SHALL not renew my subscription because your magazine is more for the hunter or fisherman than for conservationists. I am interested in fishing, but the license is too high for what I get.

Benjamin Carow
Arlington, Virginia

I LIKE your magazine better with each issue I receive, and I am very pleased with the opposition the Gathright Dam is receiving.

Ida M. Evans
Hot Springs, Virginia

Still More On Seasons

IN THE October issue of *VIRGINIA WILDLIFE*, you requested suggestions on the opening date of the hunting seasons. I have hunted since I was large enough to follow an older brother; now I'm nearly 84. Virginia is the only state I have hunted that opened the large and small game seasons on the same date. Most of my hunting for the past 60 years has been in New Jersey, Pennsylvania, and Ohio. These states put the big game later than the opening of the small game season. So far as deer are concerned, the "rut" is over by November 15 or December 1 in these states.

My experience has been that the best small game hunting is from October 20 to November 30. If carried later, rabbits hole up in groundhog holes—stumps, stone fences and the like; true, this means more overbreeders. Prolonged snows means meat of poor quality. This is also true of buck deer in Pennsylvania after the rut where in some sections there is a ratio of 15 does to one buck—many with swollen necks, hair stand in reverse, ribs showing. Have never seen this in northern Maine, the Catskills of New York State or Ontario where there is no hunting in December.

By all means, I favor an earlier start for small game, and would suggest that the small game season opening always be on Saturday so our younger generation can have the pleasure of hunting on the "first day." They are our future sportsmen, and, so far as small game is concerned, no day in the season is like the first. Some will argue there are so many hunters it is too dangerous for boys the first day. This does not hold water. Are not older hunters supposed to look where they are shooting?

If the opening of the deer season can be put off to the end of the turkey season, why

not debar the use of buckshot, which is far more dangerous to hunters than a bullet. A rifled slug from a good improved cylinder or eye bore can be relied on to go within a 5" to 6" circle at 65 yards, give a good account of itself, and curve to the ground about as soon as buckshot. At 65 yards buckshot will kill a man but only wound a deer to go off and die. Twice during the past 40 years I would have been finished had buckshot been used. One hunter thought my head was a deer and missed by 6". The other showered me with 22 shots in less than a minute, from above. One hit the tree I was standing against, rolling bark all over. The others tore up the leaves and ground around me; all missed me as they did the deer.

This spring I arranged for a month's fishing in Virginia on a non-resident's license (\$10 is too high) and was unable to use it because of storms and speedboats, especially at Philpott Dam where we could not even get to our fishing grounds. Twenty years ago we had the same condition in Ohio, but, there being a majority of fishermen, the speedboats were soon controlled inside of buoys.

Howard Terhune
Alliance, Ohio



SOMETIME ago you invited the subscribers of *VIRGINIA WILDLIFE* to comment on the game laws of the Commonwealth. I cannot ignore this opportunity to air some of my views.

As I see it, the worst features of our game laws are as follows: Non-uniform game laws, road hunting, free running dogs, permitting dogs for hunting turkeys. These are not necessarily in order of importance.

As far as I have been able to learn, the Commission has very little power as a legislative body. There are many well qualified men in the Commission, but their knowledge is set aside. The real power that makes the laws is the boards of supervisors of the various counties. Some of these men are hunters, but hunters tend to specialize on one game species and, therefore, are prejudiced. Also, they definitely lack technical knowledge, though they never would admit it. In my opinion a step that would go far to rectify this is to divide the state into three regions (some states do this) consisting of the mountains, the piedmont and the coastal plain. The commission should have full power to regulate the taking of game and to make adjustments as they became necessary.

I believe we have a law against hunting from the road, yet it is not enforced. The warden will not make arrests because he cannot get convictions. I don't blame him. I

believe the law was passed as a safety measure. It surely is not good for people to be driving along a road lined with hunters. Among other things, it gives ammunition to those who would take our guns away. Another thing is something of a personal problem. We have a group of outlaw hunters in this community. They have been annoying the local hunters and the warden for many years. In deer hunting their usual procedure is to let out the dogs in the road (posted property on both sides) and wait along the roadside on a strip of unposted property. They do not go into the unposted property but line the road. Another year this property will be posted if it is in my power to persuade the one who has the authority to do so!

Free running dogs were discussed in *VIRGINIA WILDLIFE* some time ago. I agree with the author of the article. The use of dogs for hunting turkeys makes a mockery of one of the finest sports there is. Hunting turkeys with a really good dog is not as hard as hunting gray squirrels without a dog. If turkeys were prolific or a pest or something it would be justified, but the reverse is true. I do not know a single man who has a good turkey dog that abides by the legal limit. No, I could not prove it in court, but I know it all the same. I further doubt very much if it would be possible to train and maintain a good dog by killing only two turkeys with him. It seems to me that a regulation that practically forces a man to break the law is all wrong.

While on the subject of turkeys I might comment that they were once fairly common here. Up to five or six years ago I could find signs of them any time and saw them quite frequently. It has been about a year and a half since I saw one anywhere in the neighborhood, and signs appear very infrequently. I do not know why this is so. As far as I know, there has been no radical change in farming practice, nor has any extensive cutting of timber been done. I have long thought that the season for turkeys was entirely too long, and especially so for this area. There is considerable friction between deer hunters and turkey hunters. It is doubtless true that a lot of turkeys are lost by being shot with buckshot. Of course, a great many deer are so lost also. I doubt very much that many of the turkey hunters would turn down a good buck if faced with one! It probably would help if deer and turkey hunting could be done at different times. I have hopes that this spring gobbler season will work out. For this area a closed fall season might help; they surely are not here anymore.

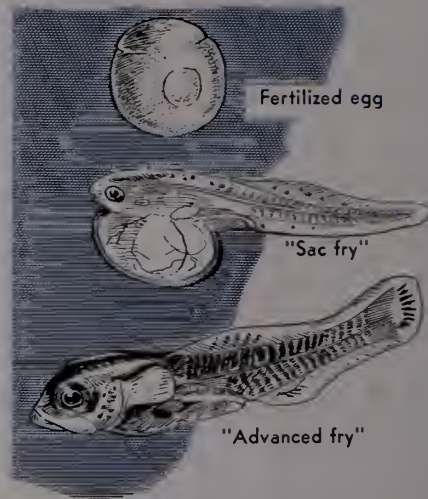
You might be interested in some comments on predation on poultry. I am 48 years old and have spent all but 14 years on farms. In this time I have noted the following cases of predation on poultry: skunks, 1; possums, about 10; coons, 1; fox, 1; mink, 2; horned owl, 1; hawks, about 3. I have caught all these predators in traps, and the sport they gave me was worth the damage in most cases. I never did find a red fox den that was not plentifully garnished with chicken feathers, but one raid is all I can truthfully say has been made against me or my dad.

James R. Boldridge
Disputanta, Virginia

THE PRIVATE LIFE OF *Largemouth Bass*



When the water temperature reaches about 60° in the spring, the male bass begins nest building. Spawning takes place at a water temperature of around 65°.



The eggs hatch in about 6 days at water temperature 70°. The large yolk sac serves as food for the tiny fry. At about 1 inch long, the young bass begin feeding on small fish and insects.



Growth rates are dependent on amounts of available food to a large extent. A bass may reach 13 inches by the end of its first year or barely make 5 inches. A five-pounder maybe five years old or as much as 10.

DRAVER



The largemouth is usually considered an "adult" at about 12 inches. Harvest can proceed after first spawning.